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ENGINEERING NEWS-RECORD

SEVENTY-SIXTH YEAR OF PUBLICATION

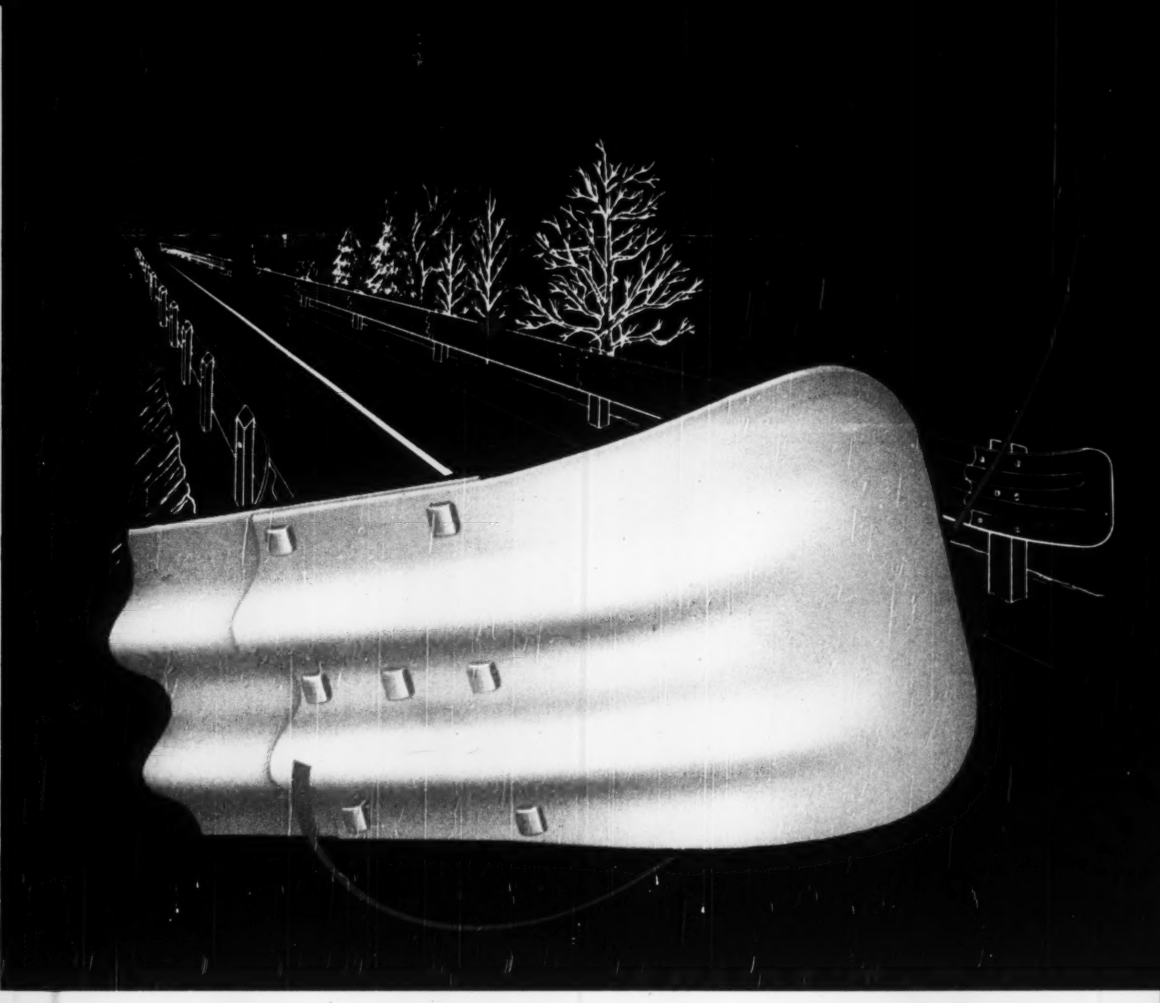
THE DELAWARE RIVER BASIN
CANNONSVILLE
INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN
COOPERATING STATES
DELAWARE
NEW JERSEY
NEW YORK
PENNSYLVANIA
FISHS EDDY
USED FLOOD CONTROL
DYBERRY
PROMPTON
BARRYVILLE
WALLPACK BEND
FLAT
LEHIGH RIVER FLOOD CONTROL

Malcolm Pirnie—"There's no water shortage—just shortage of vision" (see p. 19)

★ PRECASTING CUTS BRIDGE UPKEEP COST

★ PREFAB FORMS ERECTED, STRIPPED FAST

A McGRAW-HILL PUBLICATION



Now accidents are "Cheaper by the Dozen"

With many types of guard rail, maintenance crews were always on the go. A single accident and they had to make repairs or adjustments quickly or leave danger spots unprotected. It was costly and time-consuming.

But FLEX-BEAM Guardrail changed all that. Ordinary impacts are not likely to damage FLEX-BEAM. There is nothing to get out of order—no adjustments to make. Should a section be damaged by unusually severe impact the remainder of the installation continues to offer complete protection. And FLEX-BEAM means fewer accidents because it promotes driver confidence, encourages safer driving. There is no dangerous pocketing and the continuous sliding surface automatically deflects a striking vehicle and guides it parallel with the road.

Providing better products to meet specific needs has been standard practice at Armco for more than 40 years. A few examples are HEL-COR Perforated Pipe, Spiral Welded Pipe, STEELOX Buildings, PIPE-ARCH and sturdy MULTI-PLATE bridges.

Today you can bring your drainage and construction problems to Armco with full assurance you will receive all the benefits of long experience, extensive research facilities, and a real interest in helping you solve these problems.

Armco has a complete range of engineered products and convenient, authoritative data to help you. If your problem is difficult or unusual, why not talk it over with us?

ARMCO

ARMCO DRAINAGE & METAL PRODUCTS, INC.

MIDDLETOWN, OHIO • OFFICES AND PLANTS IN PRINCIPAL CITIES

SUBSIDIARY OF ARMCO STEEL CORPORATION

Structural Plate Pipe and Arches ★ Corrugated Metal Pipe ★ Welded Steel Pipe FLEX-BEAM Guardrail ★ Water Control Gates ★ Retaining Walls ★ STEELOX Buildings Sheeting ★ Tunnel Liner ★ Subdrainage Pipe ★ End Sections ★ Pipe Piling and Pile Shells

Research keeps
BFG
FIRST IN RUBBER

B. F. Goodrich "rockroads" lower rock-handling costs

Conveyor belts for rock-handling that cut cost-per-ton

WANT to keep a crusher crushing, a stockpile stocked, do all rock-moving jobs more economically? A B. F. Goodrich "rockroad" conveyor belt will lower costs by lasting longer, and by requiring less maintenance during every year of its longer life.

Take the operation shown above—moving rocks from primary to secondary crushing. Loading conditions are unusually severe. Rocks drop onto the belt, their fall only slightly broken by jingle bars. Ordinary conveyor belts were riddled with carcass breaks after a few months operation. B. F. Goodrich designed a belt that lasted 3 *times as long* as belts that preceded it!

B. F. Goodrich "rockroads" are made in many constructions, each best for doing a particular kind of job economically. If your belts have to carry extra-heavy loads with long centers and high lifts, if they are exposed to moisture and acid materials, cord belts may be your best bet. But, if service is less severe all around, B. F. Goodrich fabric construction may be the best belt buy for you.

B. F. Goodrich invented the cord conveyor belt, and has since made many improvements in it that make this belt first choice for many really tough jobs. B. F. Goodrich has also developed the improved square-edge construction in the fabric type of belt, eliminating seams that affect troughing, helping keep the belt aligned properly, reducing edge wear and maintenance. B. F. Goodrich will engineer and specify the best construction for your particular job.

Whatever your need in conveyor belts—fabric, cord, or cable—see your local B. F. Goodrich distributor. Ask him to show you the better "rockroads" developed by B. F. Goodrich to lower costs, reduce down-time, and increase profits. *The B. F. Goodrich Company, Industrial and General Products Division, Akron, Ohio.*

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RUBBER FOR INDUSTRY

Everything
for a
COMPLETE
PORTABLE
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READY
FOR
INSTALLATION

SPEED-LAY
PIPE SYSTEM

Couplings to suit
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LIGHTWEIGHT for SAVINGS
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Please send free booklet describing your Speed-Lay Pipe System and services:

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FIRM NAME ....

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CITY .... STATE ....

ENGINEERING NEWS-RECORD

VOLUME 144 FEBRUARY 2, 1950 NO.5

WALDO G. BOWMAN
Editor

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The Northwest Dual Independent Crowd utilizes force that every other independent crowd wastes! The Cushion Clutch eliminates the effects of shock overloads to parts under power and helps make ample power safer. The Northwest Welded Boom and Dipper Sticks have been proved in Rock work and are built for the hardest job a shovel has to do. Cast Steel Machinery Bases and Cast Steel Machinery Side-Frames take the shocks of rock digging and maintain shaft alignment.

It's a real Rock Shovel and if you have a *Real Rock Shovel* you never have to worry about output at the heart of the job.

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NORTHWEST

CRAWLER and TRUCK MOUNTED SHOVELS • CRANES • DRAGLINES • PULLSHOVELS

JENKINS PRACTICAL PIPING LAYOUTS 47

How to plan a

LOCALIZED HOT WATER SUPPLY USING STEAM-COLD WATER MIXERS

Generally small in size (up to 1" or 1½"), steam-cold water mixers are used to supply hot water economically to limited areas in industrial plants—washrooms, chemical processes, sterilizing, heat exchangers. The accompanying diagram shows the installation of two such mixers, with piping connections.

Strainers, in all lines to the mixers, prevent accumulation of scale and dirt, and thus prolong mixer life. Many install a steam trap at the end of the steam feed to drain the condensate away. This keeps live steam at the mixer inlet, and avoids lost time in arriving at desired hot water outlet temperatures.

The check valve recommended for this layout is the Fig. 92, Jenkins Regrinding Bronze Swing Check Valve. These checks prevent backup and mixing of the steam and cold water in the feed lines. The Fig. 92, with its 45° seat, will remain tight even at extremely low pressures, and its high tensile strength bronze disc can be reground easily without removing the valve from the line.

Consultation with accredited piping engineers and contractors is recommended when planning any major piping installations.

A CHOICE OF OVER 500 VALVES

To save time, to simplify planning, to get all the advantages of Jenkins specialized valve engineering, select all the valves you need from the Jenkins Catalog. It's your best assurance of *lowest cost in the long run.* Sold through leading Industrial Distributors.

Jenkins Bros., 80 White St., New York 13, N.Y.; Bridgeport, Conn.; Boston; Philadelphia; Chicago; San Francisco; Atlanta. Jenkins Bros., Ltd., Montreal.

A NEW BOOK OF PIPING LAYOUTS, Nos. 26-50 including above, is in preparation. Mail coupon to get your copy when ready.

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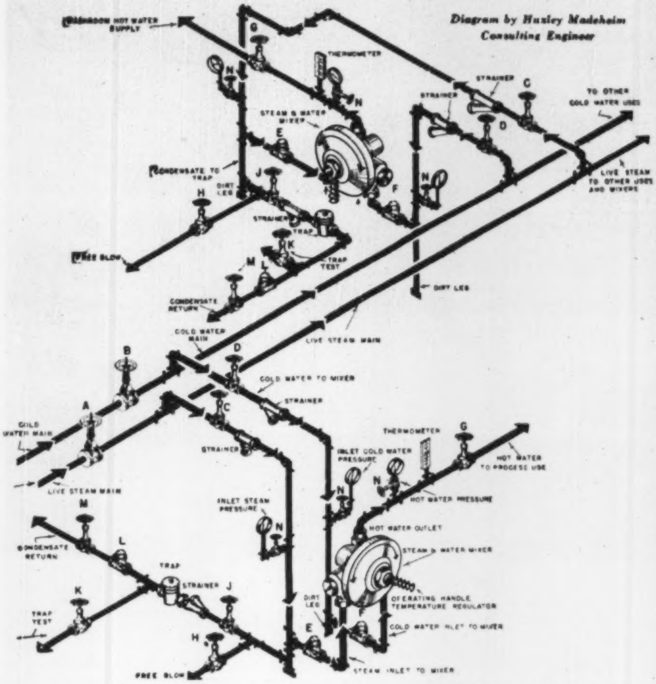
WASHROOM HOT WATER SUPPLY
G
THERMOMETER
N
STRAINER
C
TO OTHER COLD WATER USES
STEAM & WATER MIXER
E
D
CONDENSATE TO TRAP
J
DIRT LEG
N
F
LIVE STEAM TO OTHER USES AND MIXERS
H
STRAINER
TRAP
K
FREE BLOW
M
L
TRAP TEST
DIRT LEG
CONDENSATE RETURN
COLD WATER MAIN
LIVE STEAM MAIN
B
D
COLD WATER TO MIXER
A
C
STRAINER
COLD WATER MAIN
THERMOMETER
G
STRAINER
INLET COLD WATER PRESSURE
HOT WATER TO PROCESS USE
LIVE STEAM MAIN
N
N
HOT WATER PRESSURE
M
INLET STEAM PRESSURE
N
HOT WATER OUTLET
CONDENSATE RETURN
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STEAM & WATER MIXER
TRAP
STRAINER
J
K
DIRT LEG
OPERATING HANDLE TEMPERATURE REGULATOR
TRAP TEST
F
COLD WATER INLET TO MIXER
E
H
FREE BLOW
STEAM INLET TO MIXER

Diagram by Huxley Madeheim
Consulting Engineer

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VALVE RECOMMENDATIONS

For details and valves to suit varying conditions see Jenkins Catalog

CODE	QUAN.	JENKINS VALVES	SERVICE
A	1	Fig. 651 IBBM Gate	Steam Main Shutoff
B	1	Fig. 651 IBBM Gate	Cold Water Main Shutoff
C	2	Fig. 47 Bronze Gate	Steam Feed to Mixer Shutoff
D	2	Fig. 47 Bronze Gate	Cold Water Feed to Mixer Shutoff
E	2	Fig. 92 Bronze Swing Check	Prevent Backflow to Steam Main
F	2	Fig. 92 Bronze Swing Check	Prevent Backflow to Cold Water Main
G	2	Fig. 106A Bronze Globe	Control on Hot Water Outlet
H	2	Fig. 106A Bronze Globe	Emergency Free Blow on Condensate
J	2	Fig. 47 Bronze Gate	Condensate Trap Shutoff
K	2	Fig. 106A Bronze Globe	Trap Test
L	2	Fig. 92 Bronze Swing Check	Prevent Condensate Backflow
M	2	Fig. 47 Bronze Gate	Condensate Return Shutoff
N	6	Fig. 743 Bronze Needle	Pressure Gage Control

JENKINS
LOOK FOR THE DIAMOND MARK
VALVES
SINCE 1864
TRADE JENKINS MARK

Jenkins Bros

Work-ability proved with every yard moved

★ *SPECIFY*

***PREFORMED* YELLOW STRAND**

SPECIAL SCRAPER ROPE

Long Lay, with Independent Wire Rope Core
1/2" or 9/16"

On your scraper the *cable* has a lot to say about *control*—control of the cut, yardage per load, round trips per hour, cost per job. To follow through on these opportunities for fast, economical production, see that *Preformed* Yellow Strand Special Scraper Rope goes aboard each earthmoving machine.

The operator gets *accurate* response with this smooth-running cable. It's limbered to take short bends and sudden shocks . . . to spool evenly . . . to handle safely when the line is shifted. Special lubrication equips the rope for rugged wear and exposure.

Your B & B distributor will gladly work with you to standardize on *Preformed* Yellow Strand Special Scraper Rope and to maintain a balanced supply of spares. See him, too, for long-lived hoist and drag lines.

Broderick & Bascom Rope Co., St. Louis 15, Mo.

Branches: New York, Chicago, Houston, Los Angeles, Portland, Seattle
Factories: St. Louis, Peoria, Houston, Seattle

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Yellow Strand
***PREFORMED* WIRE ROPE**

REDUCE ENGINE MAINTENANCE COSTS

Engines stay cleaner when lubricated with TEXACO URSA OIL X★★

MORE power, more trouble-free performance for your heavy-duty gasoline and Diesel engines . . . less maintenance expense for you . . . when you use *Texaco Ursa Oil X★★* because it is fully detergent and dispersive and cleans as it lubricates.

Texaco Ursa Oil X★★ is highly resistant to oxidation . . . stands up under heat and pressure. It keeps rings free, assures proper valve action, protects bearings from corrosion. This means more efficient operation . . . longer life for parts . . . less fuel consumption . . . lower maintenance costs.

Use other Texaco Products to reduce other maintenance costs. *Texaco Marfak*, for example, will protect chassis bearings for extra hundreds of miles.

Texaco Marfak Heavy Duty seals wheel bearings against dirt and moisture, requires no seasonal change.

TUNE IN . . . TEXACO
presents MILTON BERLE
on television
every Tuesday night.
METROPOLITAN OPERA
radio broadcasts every
Saturday afternoon.

TEXACO

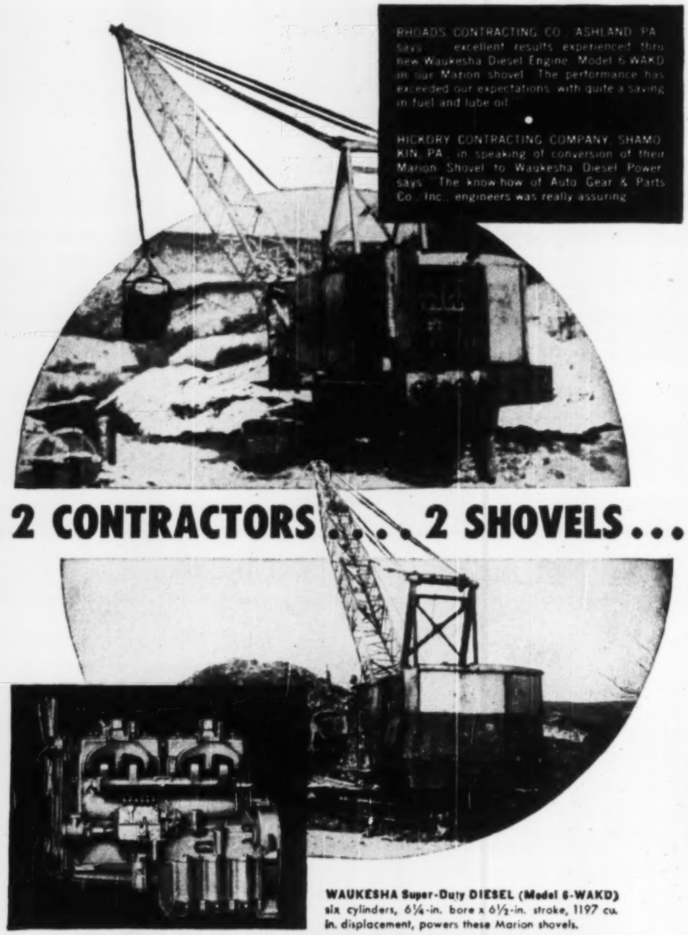
Texaco Track Roll Lubricant guards crawler track mechanisms against dirt, water and wear for long periods.

To simplify lubrication procedures and reduce maintenance costs on all your machinery, follow the recommendations of your Texaco Lubrication Engineer. Just call the nearest of the more than 2,000 Texaco Wholesale Distributing Plants in the 48 States, or write:

The Texas Company, 135 East 42nd Street,
New York 17, N. Y.

Lubricants and Fuels

FOR ALL CONTRACTORS' EQUIPMENT



RHOADS CONTRACTING CO., ASHLAND, PA. says "... excellent results experienced thru new Waukesha Diesel Engine, Model 6-WAKD in our Marion shovel. The performance has exceeded our expectations, with quite a saving in fuel and lube oil."

●

HICKORY CONTRACTING COMPANY, SHAMOKIN, PA., in speaking of conversion of their Marion Shovel to Waukesha Diesel Power, says: "The know-how of Auto Gear & Parts Co., Inc., engineers was really assuring."

2 CONTRACTORS . . . 2 SHOVELS . . .

WAUKESHA Super-Duty DIESEL (Model 6-WAKD) six cylinders, 6¼-in. bore x 6½-in. stroke, 1197 cu. in. displacement, powers these Marion shovels.

WAUKESHA *Diesel* POWER

does a better job for BOTH!

For shovel work particularly, the most outstanding of all Waukesha Diesel characteristics is smoothness and trigger-quick response to the operator's every command. Lively, yet shudder-free, it meets every power and load demand with all the smoothness of steam. And that's a new experience, even to an old Diesel hand. Clean burning, its fuel economy is excellent. Built with rugged simplicity. Such features as hard, wet cylinder sleeves, simple overhead valve mechanism, gear-driven water pump cooling, and pressure oiling—all make the Waukesha Diesel easy to understand and simple to service. For all the details, send for Bulletin 1415.

WAUKESHA MOTOR COMPANY, WAUKESHA, WISCONSIN

NEW YORK TULSA LOS ANGELES

NEWS BRIEFS

Ought to be Interesting—Governors of 10 Missouri Basin states will study a policy statement setting top priority on consumptive and sanitary uses for the Missouri's water. Led by Missouri's Gov. Smith, downstreamers have continued to agitate regarding the supply available to them if upstreamers take all they want for irrigation. The statement, designed to placate and reassure downstreamers, will be drawn by Judge Clifford Stone, of Colorado, at the request of upstream North Dakota's governor.

Facelifting Moves West—New York City's first large office building on Sixth Avenue's midtown section since Rockefeller Center was built two decades ago is scheduled to be built at 44th street. The Tishman Realty and Construction Co. began work last week on a 21-story addition to the Fawcett Building. Schuman and Lichtenstein are architects.

Do They or Don't They?—Legality of Ohio's proposed turnpike was to have been decided this week by the state supreme court. The case arose in connection with a $600,000 loan of Highway Department funds to the Turnpike Commission for a survey of the route.

That Helps—The Canadian government will pay half the cost of a $2,500,000 project to control the level of Lake Okanagan, in British Columbia. The project, aimed at increasing the capacity of the Okanagan River by about 100%, will require two dams as well as straightening and deepening of the channel.

Biggest in Town—Contracts have been signed for construction of Chicago's largest apartment building, on Lake Shore Drive north of the Loop. Estimated cost is $7,500,000 for the 740-apartment, 22-story structure. Loebel, Schlossman & Bennett is the architect. S. N. Nielsen & Co. has the construction contract.

Hungry Horse Still Is—President Truman's budget recommendation for Hungry Horse Dam in fiscal 1951 would carry the project two-thirds of the way toward completion, if granted. The budget seeks $30,500,000 for fiscal '51 at the big Montana power dam. Total cost is estimated at $108,000,000. If the project goes ahead on schedule, it would deliver its first

(Continued on page 10)

Exide Men began where you left off, Mr. Diesel

No one knew better than you, Mr. Diesel, that when you gave your engine to the world it was but a beginning.

You must have foreseen that cranking would become increasingly difficult as more powerful engines were developed and their applications multiplied.

But those future cranking problems were for others to solve. Where you left off, Exide carried on.

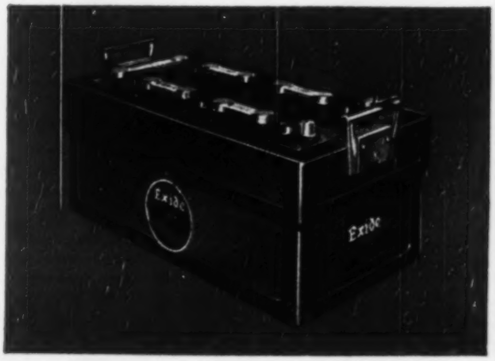
For many years Exide Men have worked closely with engine and starter manufacturers. Battery after battery has been designed and redesigned. Tests have followed tests . . . in laboratory and in service . . . under all operating conditions.

Today, builders and users of Diesel engines enjoy the benefits of those years of unceasing effort. For Exide provides batteries that are equal to any service demand.

When your Diesel cranking batteries are Exides, you can count on a quick breakaway and a high cranking speed.

THE ELECTRIC STORAGE BATTERY COMPANY
Philadelphia 32
Exide Batteries of Canada, Limited, Toronto

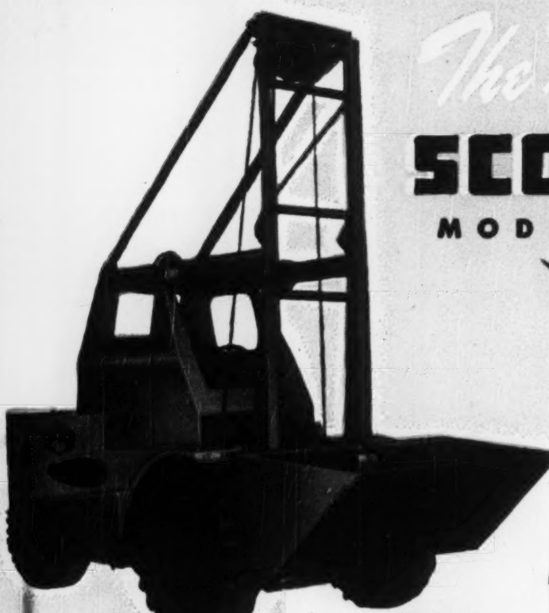
EXIDE MEN — engineers, chemists, metallurgists, physicists, technicians — comprise the largest research staff of its kind in the industry.



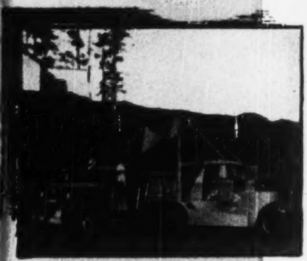
"Exide" Reg. Trade-mark U. S. Pat. Off.

1888 . . . DEPENDABLE BATTERIES FOR 62 YEARS . . . 1950

VERSATILE PROFIT-MAKER

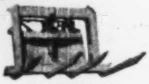


SCOOP
MODEL "C"



Loading is easier, more practical. High ground clearance and shorter turning radius.

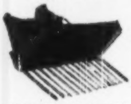
Lifts 4,000 pounds. Hoisting power is taken from the front of the engine to permit uninterrupted hoisting.



LIFT FORK

CRANE BOOM

CONCRETE HOPPER



FERTILIZER FORK

One machine—6 jobs

Built at the request of contractors, the Wagnermobile Scoop Model "C" saves time, labor costs by its many efficient uses.

- Transports, elevates and pours concrete.
- Shovels and loads dirt, etc.
- Lifts and stacks lumber and other materials.
- Handles fertilizer, hay and straw.
- Lifts heavy equipment.
- Reaches extra height.

Attachments:

- ¾ cubic yard concrete hopper.
- Scoops in 5 sizes.
- Lift fork with 2, 3 or 4 prongs.
- Special fork with tines for fertilizer, or hay.
- Crane boom.
- Track extensions up to a total of 26 ft.

These six attachments, quickly changed mean profit on the job. Wagnermobile Scoop helps you complete contracts faster.

Hydraulic controls.
Power steering-maneuverability.
Planetary drive—more power.
4 speeds forward, 4 speeds back.

MIXERMOBILE MANUFACTURERS
WAGNERMOBILE
6855 N. E. HALSEY STREET, PORTLAND 16, OREGON

(Continued from page 8)

energy in November, 1952, and northwesterners want all the power they can get, as soon as they can get it.

Not Fast Enough – Pay-as-you-go financing for a Los Angeles freeway would take entirely too long, according to City Engineer Lloyd Aldrich, who suggests long-term bond issues instead, backed by yearly allocations of gasoline tax revenues. Aldrich says that only 69 mi. of the 165-mi. road can be built in the next 10 years under the present financing.

Up to Uncle—Oklahoma's State Highway Commission has submitted a $10,760,000 secondary highway program for Public Roads Administration approval. It's the commission's first step toward building all secondary roads in the state since the 1949 legislature took that responsibility from county commissioners. The program is to be ready for contract stage after July 1, calls for 243 mi. of road.

Lots of Work Ahead—At least one in four of the 9,600 bridges on the Ohio highway system is too weak or too narrow for current traffic. That's the opinion of D. H. Overman, assistant chief engineer of the state's bureau of bridges. In 1949, he said, there were 33 complete failures and 70 partial failures of bridges on the system.

THE COVER

First, find the water collection "farm" that will give the greatest yield per acre. Construct facilities to harvest and store that yield. Then provide means for transporting it to the user.

This is Malcolm Pirnie's simplification of the water supply problem. He heads the consulting firm that Incodel hired to plan full, four-state development of the Delaware River as a source of water supply. (Malcolm Pirnie Engineers, in turn, hired Albright & Friel, Inc., Philadelphia, to assist in the studies.)

"There is no water shortage," says Mr. Pirnie, "just a shortage of vision." And with this as his main thesis, he points to the upper third of the Delaware as the source of two billion gallons daily. "Water is there to be produced, transported and marketed—just like hogs, cabbage or any other product of the land."

Past President of the American Society of Civil Engineers, the American Water Works Association, the American Institute of Consulting Engineers; one-time mayor of Scarsdale, N. Y.; and former trustee of Vassar College: Mr. Pirnie has a list of past accomplishments as broad as it is long. (See p. 25 for preliminary report details.)

This Improved Bar Reduces Objectionable Cracks in Reinforced Concrete

Tests have demonstrated the effectiveness of high bond strength, as provided by the new improved Bethlehem Reinforcing Bar, in controlling the formation of cracks in reinforced concrete.

The alternately-sloped, closely-spaced lugs on the improved Bethlehem Reinforcing Bar transfer stress from steel to concrete much more effectively than older bars with smaller, more-widely-spaced lugs. The higher bonding strength obtained means low slips at working loads, resulting in the formation of small closely-spaced cracks in the concrete, rather than the wide unsightly cracks frequently experienced.

The improved Bethlehem Reinforcing Bar meets every requirement of the new ASTM Specification A305, defining minimum requirements for reinforcing bar deformations. It is made from new-billet steel, and comes in all sizes from ⅜ in. to 1¼ in. For additional information, get in touch with the nearest Bethlehem sales office.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by
Bethlehem Pacific Coast Steel Corporation

Export Distributor: Bethlehem Steel Export Corporation

★ BETHLEHEM STEEL ★

BETHLEHEM

Reinforcing Bars

Equipment of Hendrickson Brothers, Valley Stream, N. Y., moving earth to make way for a housing project at Great Neck, L. I. Among other recent big jobs of Hendrickson Brothers in that area is a $6,500,000 sewage disposal plant for Nassau County, N. Y.

"We have a 26-year record of dependable equipment performance with **Gulf Quality Lubricants and Fuels"**

says President A. J. Hendrickson

of Hendrickson Brothers

"We have used Gulf products for over a quarter of a century because of outstanding quality and Gulf's ability to get products to us when and where needed," says Mr. Hendrickson.

The use of quality petroleum products is one of the surest guarantees of smooth, dependable equipment performance and low maintenance costs—which add up to speedier jobs and greater profits! That is why so many leading contractors engaged in all types of construction work specify Gulf quality lubricants and motor fuels.

Gulf products are available to you through 1200 warehouses located in 30 states from Maine to New Mexico. Write, wire, or phone your nearest Gulf office today.

Gulf Oil Corporation · Gulf Refining Company

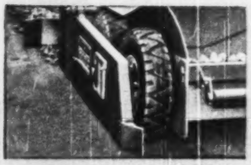
GULF BUILDING, PITTSBURGH, PA.

Sales Offices - Warehouses
Located in principal cities and towns throughout
Gulf's marketing territory

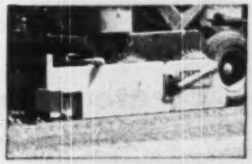
GULF

JAEGER paver-type AGGREGATE SPREADER

the low-cost, accurate, self-propelled spreader you've been looking for



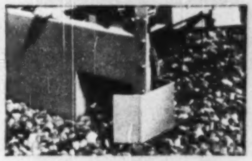
ALL TRACTION ON SUBGRADE or compacted course. No displacing of loose material. 4-wheel drive.



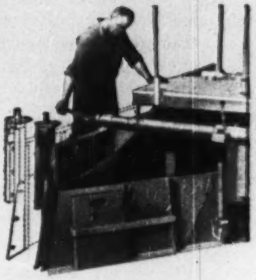
STRAIGHTEDGE RUNNERS carry screed independent of rest of machine, average out subgrade irregularity, insure accurate lay.

LAYS MANY MATERIALS: The Jaeger is adaptable for free-flowing bituminous mixes as well as all aggregates up to 4" stone.

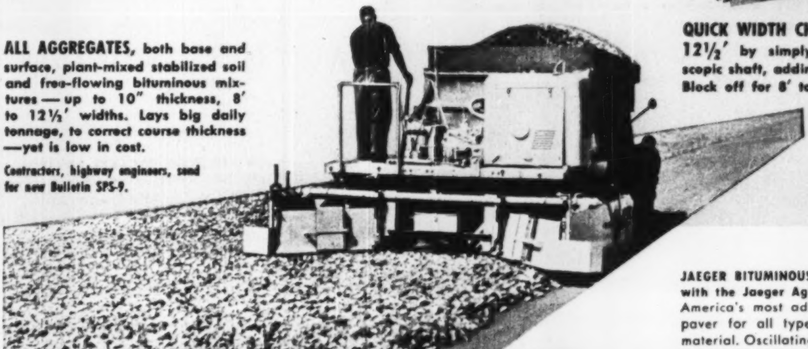
UP TO 25' IN TANDEM: Use 2 low-cost spreaders to lay and roll full-width base. Keep your costlier paver busy on top course.



BLENDS PERFECT JOINTS: Side control gates furnish material for blender wings to form joint. Saves hand work.



QUICK WIDTH CHANGES, 10' to 12½' by simply cranking telescopic shaft, adding screed inserts. Block off for 8' to 10' widths.



ALL AGGREGATES, both base and surface, plant-mixed stabilized soil and free-flowing bituminous mixtures — up to 10" thickness, 8' to 12½' widths. Lays big daily tonnage, to correct course thickness —yet is low in cost.

Contractors, highway engineers, send for new Bulletin SPS-9.

JAEGER BITUMINOUS PAVER "Teams" with the Jaeger Aggregate Spreader: America's most advanced precision paver for all types of bituminous material. Oscillating tiltable screeds, almost instant width adjustability up to 12½', positive automatic leveling. Paves flush to curbs, gutters. All traction and heavy load confined to subgrade. Ask for Catalog BP-9.

CONCRETE PAVING CONTRACTORS: Get labor-saving mass-production with Jaeger Diagonal-Screed Finisher and Screw Spreader "Team". Ask for catalog.

THE JAEGER MACHINE CO., Columbus 16, Ohio
Distributors in 130 Cities of the U.S. and Canada

JAEGER
engineered equipment
PUMPS • AIR COMPRESSORS • MIXERS

CHAMPION of

Contractors and Operators throughout the Country Proclaim the New TD-24 CHAMPION of Crawlers

The International TD-24 has proved itself CHAMPION of Crawlers. On job after job, the new TD-24 has won the admiration of operators for the ease with which it does work which other tractors cannot do. Contractor-owners are equally enthusiastic, for they see the TD-24 outworking and out-producing every other tractor in the field.

Greater power, and the weight and traction to match, plus new operator convenience and ease of control, give the TD-24 much more than an edge over any other tractor you might name.

Experienced operators and owners have this to say about the new TD-24: (names on request)

"In my estimation the TD-24 is the heavyweight champion of crawler tractors."

"The TD-24 works right along on slopes so steep we have to cut them down before other tractors can even navigate unloaded. TD-24's are fast tractors, easy to shift and have plenty of power. This combination really moves dirt . . . made us more money than any other tractor could."

"The TD-24 is a wonderful piece of machinery and I can't say enough for it. Our operators feel they are wasting their time when they run other tractors, for no other tractor built can compare with the work these TD-24's can do."

Visit your International Industrial Power Distributor and see what the TD-24 can do for you. You'll agree it's the CHAMPION of Crawlers—the one tractor you can't afford to be without, for profitable earthmoving.

INTERNATIONAL HARVESTER COMPANY
Chicago

INTERNATIONAL DIESEL

JOB FOREMAN REPORTS SAVINGS

"It (the TD-24) is definitely outhauling every other tractor on the job," says the foreman on this 247,000-yard stadium bowl job in Maryland. "It will do so much work that we are sure our job costs will show a great saving."

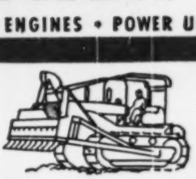
Crawlers

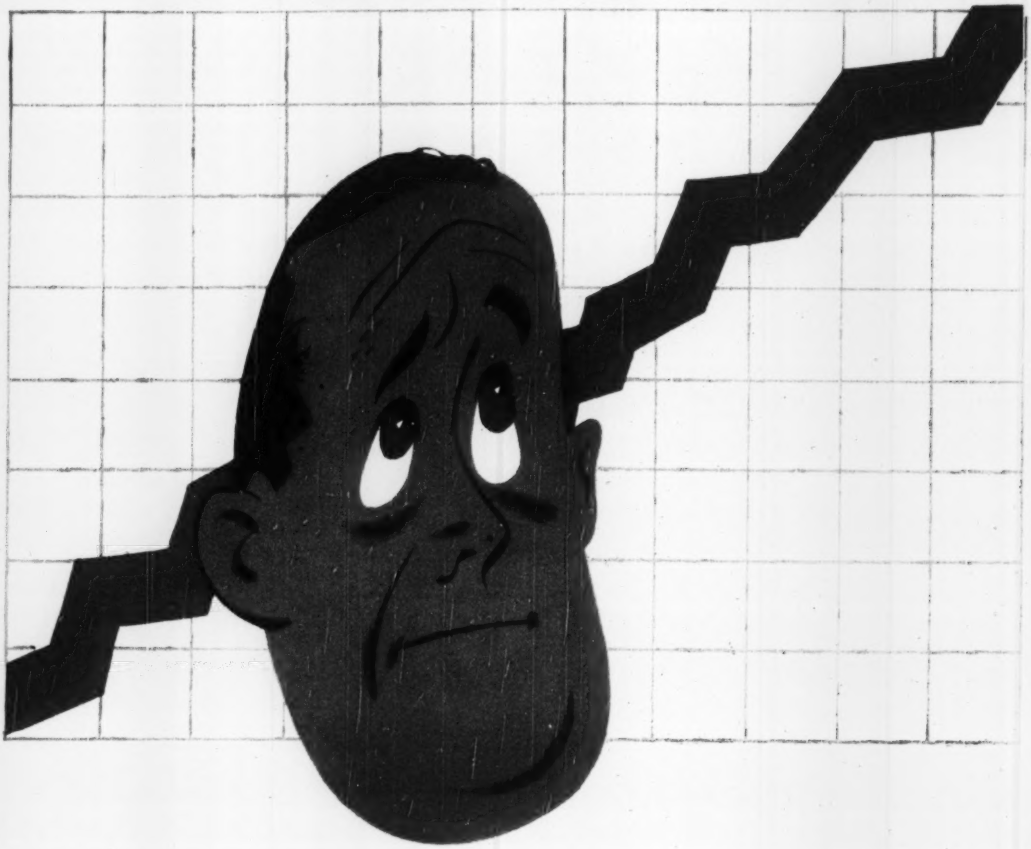
"Worth Two of Any Other Heavy Tractor," says Lindsey Belville, president of Greasy Ridge Coal Co., Greasy Ridge, Ohio, strip mine. "This is the best tractor I've ever used in my five years experience," says Warren Bare, the tractor operator shown working it in heavy rock. "It is the only one that will do everything I want it to," he claims.

INTERNATIONAL HARVESTER

INTERNATIONAL
INDUSTRIAL POWER

CRAWLER TRACTORS • WHEEL TRACTORS • DIESEL ENGINES • POWER UNITS





Maintenance costs still up?

YOU can attribute nine out of ten engine breakdowns to excessive wear. Why not *prevent* that excessive wear with Quaker State HD Oil?

Quaker State HD Oil is specially refined for heavy duty use from 100% pure Pennsylvania grade crude oil—finest crude oil ever discovered anywhere in the world. Even when the going is toughest, Quaker State HD Oil keeps its body, lubricates thoroughly, protects fully, cushioning every friction surface. It helps prevent the formation of sludge, gum or varnish — actually, it *cleans* as it lubricates.

Switch over to Quaker State HD Oil *right now*—if you want to give your equipment the breaks instead of the breakdowns.

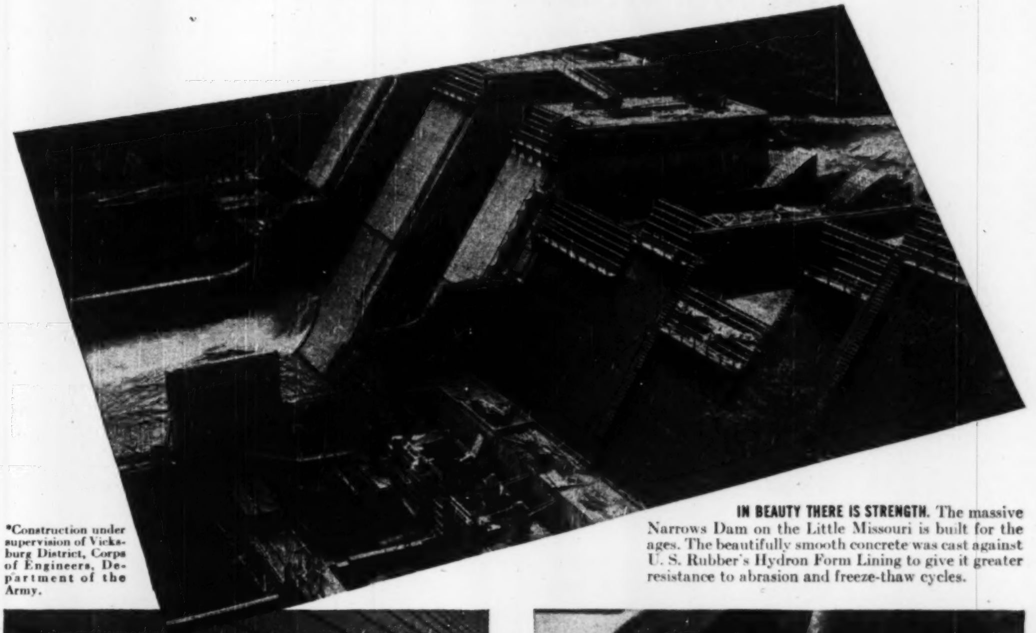
QUAKER STATE
HD OIL
AND SUPERIOR LUBRICANTS

Use Quaker State HD Oil for trucks, buses, taxis, tractors.
Use Quaker State Motor Oil for passenger cars.

QUAKER STATE OIL REFINING CORPORATION, OIL CITY, PA.

PERFECT COMPLEXION FOR A CONCRETE FACE

Arkansas Narrows Dam* gets a smooth, super-strong concrete face with U. S. Hydron® Form Lining



IN BEAUTY THERE IS STRENGTH. The massive Narrows Dam on the Little Missouri is built for the ages. The beautifully smooth concrete was cast against U. S. Rubber's Hydron Form Lining to give it greater resistance to abrasion and freeze-thaw cycles.

BILLIARD-BALL SLIPPERY is the downstream surface of the dam. Hydron absorbs the excess water and eliminates trapped air from the concrete, greatly reduces surface pits. This great "U. S." development comes in flexible sheets only 0.08 inch thick.

300,000 SQUARE FEET of Hydron were mounted to wooden forms quickly and easily with rapid-fire staple guns. Hydron is inexpensive, easy to ship, store, cut or trim. It can be used on big or small jobs, gives longer life, lower maintenance costs.

The engineers and contractors who use Hydron Form Linings report Hydron adds *years* to the life of concrete. Yet the total costs, including a satisfactory profit, is only 12¢ to 16¢ per square foot. The use of Hydron eliminates expensive hand rubbing. For more information write to address below.

A PRODUCT OF

U.S. RUBBER
SERVING THROUGH SCIENCE

UNITED STATES RUBBER COMPANY

MECHANICAL GOODS DIVISION, ROCKEFELLER CENTER, NEW YORK 20, N. Y.

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*Construction under supervision of Vicksburg District, Corps of Engineers, Department of the Army.

SURE GOT A FAST START HERE WITH RYERSON REINFORCING SERVICE!

Keep on Schedule with Ryerson Quick Steel Deliveries

A quick start and steady progress are especially important on building jobs today. And in keeping jobs on schedule, steel is a big factor.

You can assure quick, dependable deliveries of reinforcing steel by working with your nearby Ryerson plant. When you call Ryerson, every service from setting plans to final delivery is available to you. You can get fast, accurate fabricating service, as well as quick delivery of plain material from large stocks. All bars are correctly identified for setting, with metal tags that can't tear loose. And wire mesh, structurals, plates—every other kind of steel—are also on hand. So you get coordinated shipment of all the steel needed from one source.

Leading contractors from coast to coast keep on schedule with Ryerson steel service. We urge you to call us for lump sum or average pound price on your next job.

Hi-BOND Reinforcing from RYERSON

Hi-Bond reinforcing bars from Ryerson stocks used in the job above meet both standard ASTM specifications—A 15-39 and A 305-49.

RYERSON STEEL

RYERSON CERTIFIED STEELS

JOSEPH T. RYERSON & SON, INC. PLANTS AT: NEW YORK • BOSTON • PHILADELPHIA • DETROIT • CINCINNATI
CLEVELAND • PITTSBURGH • BUFFALO • CHICAGO • MILWAUKEE • ST. LOUIS • LOS ANGELES • SAN FRANCISCO

THE CONSTRUCTION WEEK

FAINT HOPE REMAINS—New Englanders have been speculating with added vigor about an integrated steel plant in their territory (ENR Sept. 29, 1944, p. 17), even since U. S. Steel bought that 3,800-acre site near Philadelphia, (ENR Jan. 5, p. 23). But there's a hollower ring to such hopes as a result of the testimony Big Steel's President Fairless gave in Washington last week. Noting that Big Steel has 250,000 ingot tons capacity now in Worcester, and a Delaware River site for expansion if it wants to produce on the east coast, Fairless told a Congressional committee that these "would be adequate, in our opinion, to meet that portion of the New England market demand which we can expect to serve." Possibility that the next biggest producer, Bethlehem, might be interested is hardly brighter. Bethlehem, although it has extensive steel-consuming facilities at its Fore River shipyards, already occupies the industry's best position to serve Atlantic Coast markets. In addition, it has just announced a $30,000,000 expansion for its Sparrows Point (Baltimore) plant. Abolition of the basing point pricing system, which puts Bethlehem on top, freightwise, in east coast markets, is a major reason why U. S. Steel is interested in an east coast plant at all; so Bethlehem, particularly with its new expansion, seems an unlikely prospect for New England expansion.

BAY BRIDGE POLITICS—Appointment of a new San Francisco public works director was influenced by politics surrounding selection of the site for a second San Francisco-Oakland Bay Bridge. City officials passed over City Engineer Ralph Wadsworth and named his assistant, Sherman Duckel, to be Wadsworth's new boss. According to local gossip, Wadsworth was bypassed because of suspected "twin bridge" leanings (city officialdom is fighting for the southern crossing while state officials prefer to build a twin bridge first). Truth is that Wadsworth simply hasn't been a vigorous enough supporter of the southern crossing. Engineering arguments in the state's report (ENR Nov 25, 1948, p 39) have led him to admit privately that city politicians have taken a stand indefensible from an engineering standpoint.

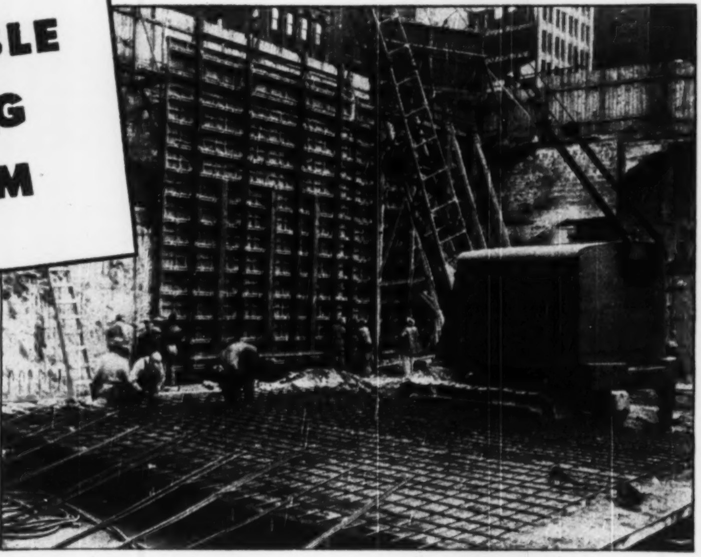
AFL'S STAND ON PENSIONS—The construction industry is a prime target for the AFL's pension strategy. AFL wants vesting provisions in the pension contracts it writes, so that workers can take retirement credits with them when they switch jobs. It'll push area and industry pension plans to facilitate the program. CIO is anxious to put all pension costs on employers. Disability pay, too, will be pushed at least until Congress writes it into the Social Security act. It's given now in four states: New York, California, Rhode Island and New Jersey.

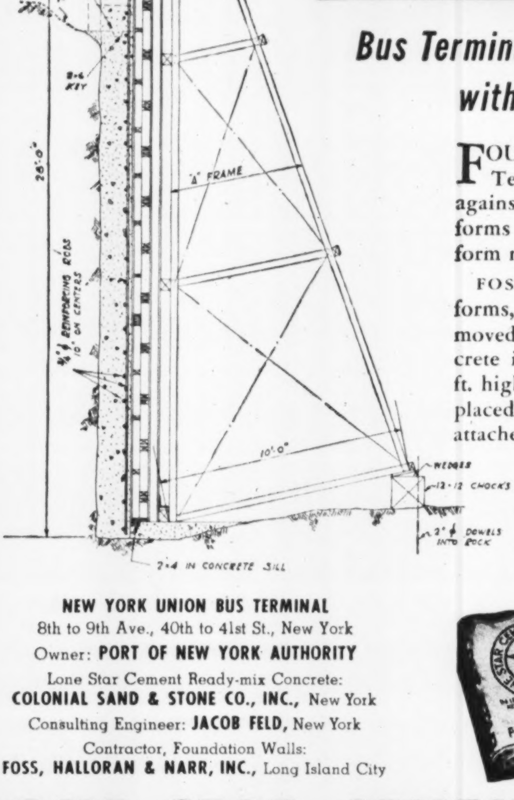
PAGE THE WATER POLICY BOARD—A single-sentence description that is going the rounds: The Central Arizona Project proposes to use water which it does not own, lift it nearly twice as high as the Washington Monument, convey it farther than from Washington to New York at a cost to the federal treasury of three quarters of a billion dollars, to irrigate 200,000 acres of privately owned war-boom desert land which would not be required to repay any of the construction cost, for raising crops which are now surplus in this country. Authorship, obviously non-Arizonian, is attributed to Claire Engel, Congressman (Dem.) from Red Bluff, Calif.

UNDER CONTROL—Experience on the Bronx-Whitestone suspension bridge at New York since its stiffening girders were deepened reveals that wind deflections are no longer noticed by the public. This was not the case when double amplitudes of about 12 in. (6 in. either way from normal) were exceeded at the quarter points of the span. On two occasions, 30-in. double amplitudes were recorded. These were uncomfortable, but not unsafe, a 76-in. double amplitude being required to exceed allowable stresses in the girders. Since the girders were deepened, it is learned, double amplitude has never been greater than 9 in. An interoffice memorandum of the Triborough Bridge and Tunnel Authority, the owner, recently said, "the bridge, as it now stands is the most nearly perfect in character of design of any suspension bridge yet constructed for the carrying of only highway traffic," i.e., rigid enough to be comfortable, but not so rigid as to be over-designed.

IT ISN'T REALLY FREE SERVICE—Construction equipment dealers are concerned with the increasing field service being demanded by purchasers. They emphasize that if it continues to increase, prices will have to go up to cover it. Some distributors suggest that a manufacturer's warranty be good for a stipulated number of hours of operating time—as well as for a stipulated time after purchase. From the manufacturers, also, distributors want more help on financing equipment sales and better factory sales schools. Regarding the latter, distributors suggest that their salesmen be given more product knowledge, less instruction on how to sell.

FORMIDABLE FORMING PROBLEM




TO STRONGBACK FOR CRANE LIFTING
TOP OF ROCK FACE
CONCRETE
2×4 KEY
28'0"
"A" FRAME
3/4" ϕ REINFORCING RODS 10" ON CENTERS
10'0"
WEDGES
12×12 CHOCKS
2" ϕ DOWELS INTO ROCK
2×4 IN CONCRETE SILL

Bus Terminal Foundation Walls Pre-assembled with Reinforcing Bars Attached

FOUNDATION walls for the New York Union Bus Terminal were concreted with one-sided forms, against a perpendicular rock face. By constructing forms on the ground, scaffolding and hoisting of form material was eliminated.

FOSS, HALLORAN & NARR, INC., assembled forms, attached rigidly-welded reinforcing steel, moved forms into position by crane, tremied concrete into place. Four form sets were used, each 28 ft. high by 24 ft. long. After stripping, forms were placed on the ground, reinforcing for next section attached, and cycle repeated.

Lone Star Cement was used on this job. Where one-day stripping is desired for faster form re-use, or in cold weather, use 'Incor',* America's FIRST high early strength Portland Cement.

* Reg. U. S. Pat. Off.

NEW YORK UNION BUS TERMINAL
8th to 9th Ave., 40th to 41st St., New York
Owner: **PORT OF NEW YORK AUTHORITY**
Lone Star Cement Ready-mix Concrete:
COLONIAL SAND & STONE CO., INC., New York
Consulting Engineer: **JACOB FELD,** New York
Contractor, Foundation Walls:
FOSS, HALLORAN & NARR, INC., Long Island City

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LONE STAR PORTLAND CEMENT
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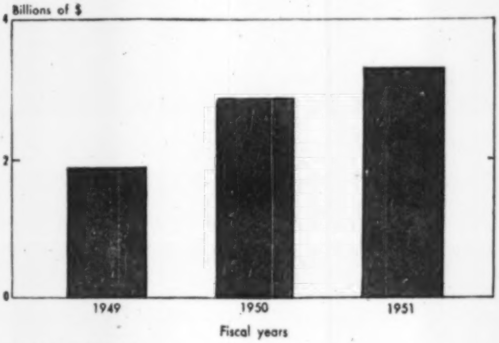
LONE STAR CEMENT, WITH ITS SUBSIDIARIES, IS ONE OF THE WORLD'S LARGEST CEMENT PRODUCERS: 15 MODERN MILLS, 27,500,000 BARRELS ANNUAL CAPACITY

CONSTRUCTION TRENDS



Data: The Budget of the U.S.
McGraw-Hill Dept. of Economics

CONSTRUCTION AND THE BUDGET

The record of 1949—and plans for 1950—reveal dramatically how the federal government is shaping the course of construction now. By all the indications, too, Washington's role in construction will grow in the years ahead.

Here are some of the items outlining the scope of the federal program:

In housing: Almost one-half of the record volume of private homes now under construction is being financed by mortgages insured or guaranteed by the federal government.

About 350,000 families now live in rental housing which was financed by means of government-insured mortgages.

The Reconstruction Finance Corporation, through a subsidiary, the Federal National Mortgage Association, in the current fiscal year (ending next June 30) will buy some $940 million worth of home mortgages from private lenders. In building up this secondary market for mortgages, RFC will have invested almost $2.5 billion by June 30. It is asking for an extra $750 million of lending authority.

Under the new public housing program, preliminary loans have been made to help communities plan projects. These projects will provide an estimated 220,000 dwelling units. Goal is to have 175,000 of these started by mid-summer 1951.

In aid for other construction: Federal loans and grants for building highways, hospitals, and other projects are matched or supplemented by money provided by state and local governments. In all, the volume of these federally-aided projects will run to about $2 billion in fiscal 1951, the year ending in June, 1951.

Directly: The federal government on its own projects is spending about $2 billion a year currently.

Total federal expenditures, for public works including loans and grants to state and local governments, will run to $2.9 billion in fiscal 1950, which ends in June. In the next fiscal year, federal construction expenditures are budgeted to climb to $3.3 billion.

These are estimates of what actually will be spent, not what will be appropriated by Congress. The great bulk of the program has already been authorized by Congress and work is underway on most of it. In fact, these estimates reflect some attempt to keep the brakes on. The budget says, for example, that recommendations for new loans and grants in fiscal 1951 will be held generally at the level of fiscal 1950.

The impact of all this on construction is clear.

One-third of 1950's total new construction is likely to be public works. This includes state and local projects, of course. But here the federal government, through grants and loans, is a major influence.

Another third of the construction work this year will be in homebuilding—and here the evidence is clear that the federal government underwrites the market. Through its insurance program, by buying existing mortgages from private lenders, and by holding interest rates low, the federal government influences all homebuilding. Through its credit operations and the public housing program, the federal government can go far in stabilizing homebuilding.

Through its agricultural programs, the federal government has a big hand in farm construction. It makes loans and grants directly to help farmers build. Indirectly—but more importantly—it supports farm incomes. That puts cash in farmers' pockets, giving them the wherewithal to improve and expand their buildings.

That leaves a big chunk of construction—commercial, industrial, utility, railroad, and other private nonresidential building—where the government has no direct influence. But even here the government's hand is felt. Higher corporation taxes, as recommended by the President, might well slow such building.

Prospects are, too, that Washington will become more important in the construction outlook in the next few years. By all the indications, public works will grow as the nation buckles down to meet its needs for new schools, better roads, more hospitals, and for power and irrigation projects. President Truman's proposal for a "middle income" homebuilding program is only one indicator pointing to a growing government interest in residential building.

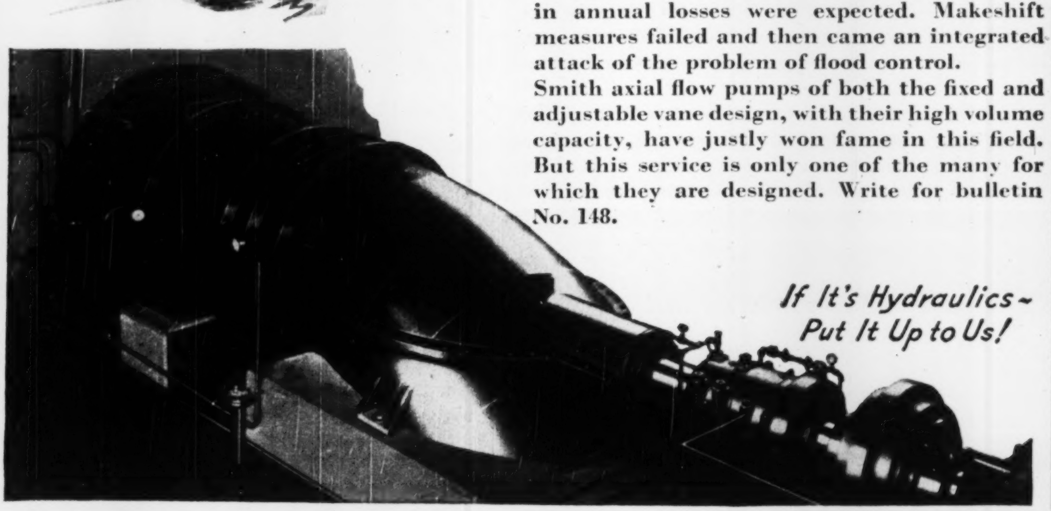
In short—what Washington plans and does is the single most important key to the construction outlook. And the President's budget for fiscal 1951 underwrites a high level of construction in the next 18 months.

old floods–
new pumps–

RISING, often, even in the dead of night, flood-water, one of man's first and ever-constant enemies has exacted its toll!

In the United States alone, millions of dollars in annual losses were expected. Makeshift measures failed and then came an integrated attack of the problem of flood control.

Smith axial flow pumps of both the fixed and adjustable vane design, with their high volume capacity, have justly won fame in this field. But this service is only one of the many for which they are designed. Write for bulletin No. 148.



*If It's Hydraulics–
Put It Up to Us!*

S. MORGAN SMITH Co.
YORK. PENNA. U.S.A.

EDITORIALS

Stamping Out Malaria

SANITARY ENGINEERS can point with pride to their contributions in stamping out malaria in the Tennessee Valley Authority's reservoir areas. The fifteenth annual TVA report reveals that—for the first time in the history of the region—no positive blood smears were found in areas with a history of high incidence of malaria-breeding mosquitoes and with a positive-slide record for the previous year. In 1934, there was 30 percent infection.

This achievement is attributable to the close cooperation among state and county health workers and TVA's experts in making the life of malaroius mosquitoes unbearable. It was accomplished by an admirable blending of a variety of control methods involving engineering, biological and medical principles. The engineering techniques included: Water-level fluctuations; widespread larviciding and adulticiding; and elimination of mosquito-breeding places by preventive construction. Later in the campaign, airplane application of DDT not only replaced tedious manual and boat spreading of oil and paris green, but also decreased cost of control measures.

Proponents of the Point 4 foreign program should take note of this health-guarding achievement, and not overlook the malaria-mosquito annihilation in Sardinia. (ENR Dec. 9, 1948 p 75) The significance of these outstanding campaigns is simply this: Effective sanitary engineering is the essential spearhead of development projects in areas plagued with mosquito- and water-borne diseases.

More Power at Niagara

WORD THAT THE UNITED STATES AND CANADA have begun negotiations looking toward revision of the 1909 treaty relating to the use of water at Niagara Falls for power generation is welcome news. Revision has long been needed. It should have been made a part of the 1941 agreement between this country and Canada under which both the Roosevelt and Truman administrations tried vainly to get the St. Lawrence power and navigation project started. Revision is more urgent today because of the greater demand for power on each side of the border, yet no new plants can be built until the amounts of water that each country can use have been fixed by a new treaty or international agreement.

The 1909 treaty allocated more water to Canada than to this country because part of the water drawn off on the Canadian side of the Niagara River was used in American-owned plants to generate power that was exported to this country. Water so used represented substantially the difference between the allocations. Today those plants are obsolete. Also, they develop only part of the head that could be developed by carrying the water past the rapids below the falls as is done in the great Queenston plant on the Canadian side. Because the plants are obsolete, the water originally allocated to Canada for those old plants should now be allocated to the United States.

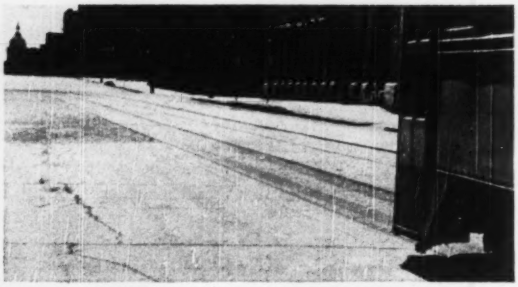
Canada, on the other hand, should be granted exclusive right to use an amount of water equal to the amounts being diverted from the Hudson Bay drainage basin into the Great Lakes basin in northern Ontario for power and the transportation of pulpwood.

And each country should receive an equal share of the additional diversions that now can be made, without detriment to the falls as a scenic spectacle, as a result of the construction of submerged weirs above the falls. Those weirs were built jointly by the two countries during the war to provide more water for power development.

That water was used in the old and inefficient plants under an informal emergency agreement. A new treaty giving permanence to those increases and correcting the other deficiencies of the allocations as made under the old treaty would open the way for a large increase in the power generated in the Niagara region, especially on this side of the border. As that power is badly needed, prompt ratification of the treaty would permit an early start on such development, which at best will be slow because of the difficult physical and legal problems that must be met.

Fair Play Pays

"DON'T TRY TO BULL (DOZE) UNCLE SAM"—that's the advice the Associated Equipment Distributors gives its members, just in case any of them are falling in with tax-evasion shenanigans. An increasingly popular machinery supply device is the rental-purchase agreement. This agreement apparently gives the contractor the right to deduct full "rental" payments from gross income. Actually he may be creating an equity in the equipment. In this case he must deduct a smaller amount, which is his ownership expense, based on the equipment's expected life. If the government finds that it is the parties' intent to create ownership, owners are in for some penalty and deficiency bills. And sellers are paying undue taxes—on "rental" incomes that should be taxed primarily for the sales profits they contain. The intention of every machinery-supply agreement should be understood clearly, and the parties should govern their tax-reporting by that intention. Uncle Sam will get his share, to be sure. It's best that he gets it from the right parties first.



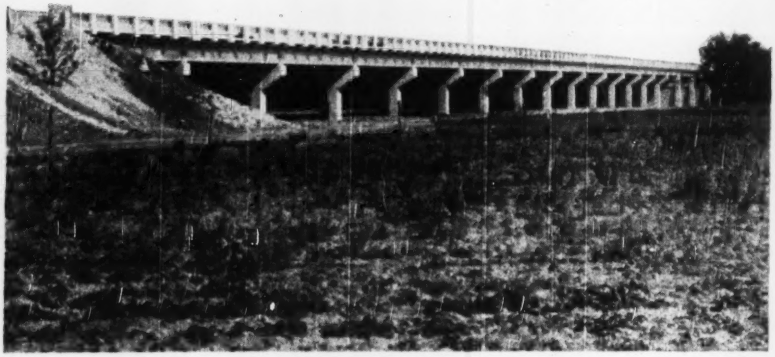
Ten Years Ago...

A Decade of ATLAS DURAPLASTIC AIR-ENTRAINING PORTLAND CEMENT

in August, 1939, this concrete test paving was laid in Second Avenue North, Minneapolis. The badly scaled section of roadway in the background was made with regular portland cement. The foreground section, *laid at the same time*, was made with Atlas Duraplastic—the first commercial use of the air-entraining portland cement originated and developed by Universal Atlas.

Both sections, subjected to the severity of ten Minneapolis winters and to heavy applications of de-icing salts, are shown just as they appeared in July, 1949—convincing proof of the characteristic durability of Duraplastic concrete, of its high resistance to freezing-thawing weather and the scaling action of de-icing salts. Longitudinal structural crack shows some ravelling. Note perfect transverse joint.

Today... It's DURAPLASTIC* for more durable concrete



South Concho River Bridge—U. S. Route 87 and U. S. 277, Tom Green County, Texas. Atlas Duraplastic used for bridge structure and paving. Contractor: M. E. Worrell, Austin, Texas.

Throughout the past decade, concrete made with Atlas Duraplastic Air-Entraining Portland Cement has proved to engineers and contractors its greater durability in paving jobs—and its improved surface appearance in structural uses. Its advantages have been applied to all types of mass and structural concrete—for foundations, walls, columns, and floors. It's ideal for slip-form, gunite, stucco and similar uses.

With Duraplastic, less mixing water is needed for a given slump. The resulting mix is more plastic, more uniform and more cohesive. It's easy to place and finish. Bleeding or water-gain and segregation are reduced. Paving concrete has higher resistance to the effects of freezing and thawing and the scaling action of de-icing salts; structural concrete exhibits improved surface appearance.

Duraplastic provides the precise amount of air-entraining agent interground with the cement for satisfactory field performance. It complies with ASTM and Federal Specifications, sells at the same price as regular cement and calls for no unusual changes in procedure. For further information write to Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York 17, N.Y.

OFFICES: Albany, Birmingham, Boston, Chicago, Dayton, Kansas City, Minneapolis, New York, Philadelphia, Pittsburgh, St. Louis, Waco.

"Duraplastic" is the registered trade mark of the air-entraining portland cement manufactured by Universal Atlas Cement Company.

ENR-O-98

ATLAS DURAPLASTIC

TRADE MARK REG. U. S. P. CO.

AIR-ENTRAINING PORTLAND CEMENT

MAKES BETTER CONCRETE AT NO EXTRA COST

A UNIVERSAL ATLAS PRODUCT

"THE THEATRE GUILD ON THE AIR"—*Sponsored by U. S. Steel Subsidiaries—Sunday Evenings—NBC Network*

ENGINEERING NEWS-RECORD

FEBRUARY 2, 1950 VOL. 144 NO. 5

Delaware seen as best answer to four-state water demand

Consultants give Incodel preliminary report—Recommend interstate agency to start integrated development of water supply—Stage 1 of plan would cost $540 million

Arthur J. Fox, Jr.
Assistant Editor

If the four states of the Delaware River Basin can forget their local and political animosities and work together, they can eliminate—probably for all time—the now-real threat of water shortage in the heavily-populated, highly industrialized areas around New York and Philadelphia.

Working together, engineers for the Interstate Commission on the Delaware River Basin (Incodel) told state officials last week, the states can produce 2,000 mgd to satisfy all foreseeable water needs for the next 50 years; regulate stream flow to hold down pollution and foster industry; better navigation and improve recreational use of the Delaware and its tributaries.

• Cost is heavy—Cost for the whole scheme would be $940 million; for the immediately recommended first stage, $540 million. Engineers say Stage 1 could be planned, designed, built and in operation in 15 years. The second stage would follow as needed.

The impact of their report sharpened by metropolitan New York's continuing drought (at week's end, New York City's reservoirs held about 43 percent of their capacity), Malcolm Pirnie Engineers, of New York, and Albright and Friel, Inc., of Philadelphia, consultants for Incodel, told commissioners of the interstate body what they thought it should do to utilize fully the waters of the Delaware. Their report was preliminary—the result of a six-month study—and will be followed (if authorized) by a final report to be delivered in September. The final report will include detailed information on land acquisition, water rights and construction costs.

Incodel commissioners, representing the states of New York, New Jersey, Pennsylvania and Delaware, will place the preliminary reports before their state legislatures for approval of the needed expenditures.

• Recommendations—The preliminary report recommends: (1) Incodel should authorize immediately the second step of the survey; (2) a Delaware River Water Commission—or interstate agency by some such name—should be established presently with authority to plan, finance, construct and operate the project and sell the product; (3) until such agency can be legally established, Incodel should be given power and funds to advance plans for construction and financing.

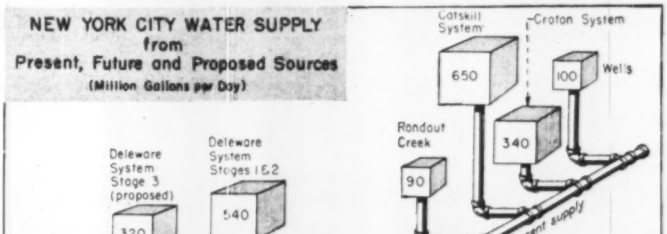
The report points out to the basin states that theirs is the opportunity to set a new pattern for national policy on water resources of interstate regions.

• Description of recommended project—Eight reservoirs would be built—seven for storage and one for diversion. Farthest north (see accompanying map) would be Cannonsville Reservoir on the Delaware's West Branch in the Catskill Mountains of New York State. An earthfill structure 2,000 ft long and 170 ft high would store 118 billion gallons at El. 1,163. Bed rock is 100 ft below the valley floor, and the east slope is steep rock, suitable for spillway construction. This would be strictly a regulating reservoir; cost, $60,000,000.

On the main stream below Barryville, N. Y., a 600-ft long masonry dam could be built into the firm rock bluffs on either side. This structure would divert flood water through a tunnel and have floodgates for passing flow above El. 630. This dam would cost $20,000,000.

A 17-mile concrete-lined pressure tunnel for diverting flood flows from Barryville to storage in Godeffroy Reservoir would have a 6,200 cfs maximum capacity (some 4,000 mgd) when Godeffroy is drawn down to El. 530. It would pass 1,900 cfs when Godeffroy is filled to flow line, El. 620. Cost: $95,000,000.

• Two dams needed—Godeffroy Reservoir would be just below the conflu-


NEW YORK CITY WATER SUPPLY
from
Present, Future and Proposed Sources
(Million Gallons per Day)
Catskill System
Croton System
650
100
Wells
340
Rondout Creek
90
Present supply
Deleware System Stage 3 (proposed)
320
Deleware System Stages 1 & 2
540
Incodel Project (Proposed)
2,000
Hudson River
100
Proposed and authorized future supply
1,350
1,180
Ultimate use by N. J., Pa., Del. Cities of Incodel Water
1,200
Possible eventual supply to N.Y. City — 2,530

NEW YORK CITY SUPPLY now totals near 1,180 mgd; it could reach 2,530 mgd if the Incodel plan materializes. Total future supply estimated here assumes Delaware Stage 3 will not be built if Incodel project goes through. Also, the figure for Delaware Stages 1 and 2 includes the 90 mgd now coming from Roundout Creek.

ence of Neversink River and Basher Kill. It would require two earthfill dams: one 4,500 ft long and 140 ft high on the Neversink at its south end; the other 4,800 ft x 100 ft on Basher Kill at the north end. The 14-mile long pond would store 260 billion gallons; entering at one end and leaving from the other, water would have full benefit of long detention time. Total cost: $135 million.

Water leaving Godeffroy would go via bee-line tunnel 65 miles to the south ends of City Tunnels 1 & 2 in Brooklyn. The tunnel would pass up to 1,250 mgd, have provision for a future filtration plant and serve New York City, plus northern New Jersey's metropolitan area. Cost of the tunnel: $230 million.

And that's Stage 1–$540 million worth.

• **Stage 2**–As demand rises in the area served by this phase, Fishs Eddy Dam would be built to increase storage above the diversion, and Flat Brook Dam would be added downstream to help regulate flow–discharging its waters at times of low flow. Fishs Eddy, 2,000 ft long and 200 ft high would impound 157 billion gallons at El. 1,100 and cost $105 million–including considerable railroad and highway relocation. Flat Brook, 2,500 ft x 140 ft, could store 84 billion gallons at El. 520; cost, $25,000,000. Both would be earthfill. If its 65-sq mi drainage area could not fill Flat Brook, water would be pumped into it from Wallpack Bend Reservoir upon its completion.

Wallpack Bend would be built when Philadelphia needs it–or decides to switch to upland sources more potable than its present Delaware and Schuylkill River supplies. (Untreated sewage and industrial wastes dumped into the tidal length of the river–from Trenton Falls to the sea–total 400 mgd but progress is being made toward reducing that pollution.)

Adequate rock anchorage on either bank makes practical a masonry dam 1,850 ft long to store Wallpack Bend water at El. 420 for some 25 miles upstream. It would cost $45,000,000.

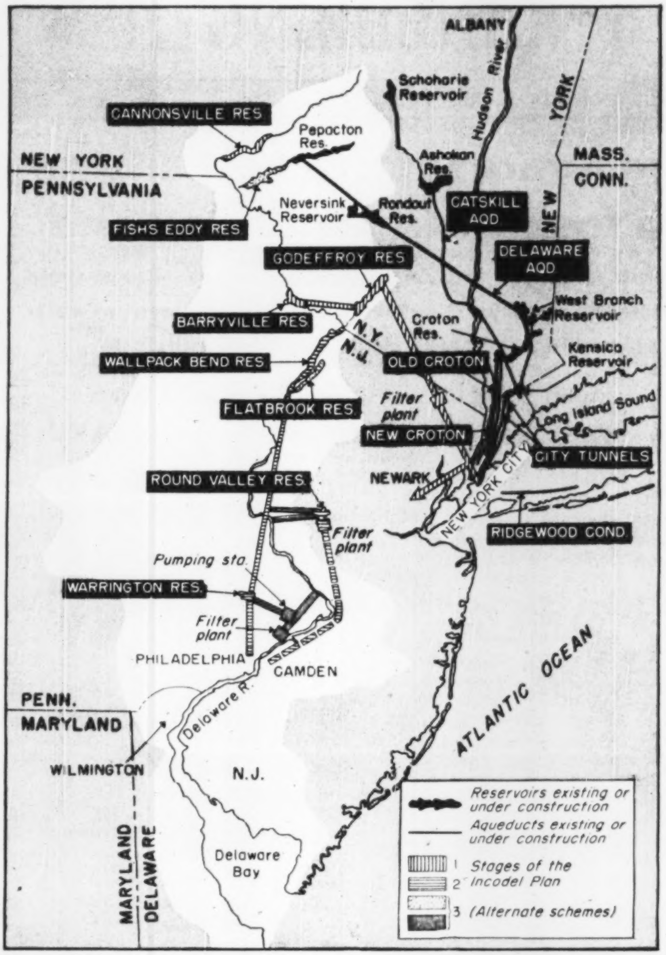
• **Alternate schemes**–To get Wallpack Bend water down to Philadelphia and other users on the lower Delaware, Incodel's consultants offer alternate plans and indicate their preference.

The plan favored now is the second alternate shown on the map. It would permit water to be transported in the open channel of the river and pumped from river intakes above Trenton Falls directly to Philadelphia filter plants and to reservoirs (Round Valley and Warrington) for distribution on either side of the river. The other plan calls for a tunnel to carry 500 mgd some 58 miles straight to Warrington Reservoir, and 100 mgd through a branch to Round Valley.

In either case, a conduit would take Round Valley Reservoir water south to the southern New Jersey metropolitan district from Trenton to Camden.

Cost of elements of this phase include: Warrington Reservoir, $30,000,000; intake, pumping and tunnel to Warrington, $90,000,000; Warring-to-Philadelphia tunnel, $55,000,000; pumping and conduit to Round Valley Reservoir, $30,000,000; Round Valley Reservoir, $20,000,000.

Added up, Stage 2 is estimated to cost an even $400 million.


ALBANY
Schoharie Reservoir
Hudson River
YORK
CANNONSVILLE RES.
Pepocton Res.
NEW YORK
PENNSYLVANIA
MASS.
CONN.
Ashokan Res.
Neversink Reservoir
Rondout Res.
CATSKILL AQD
NEW
FISHS EDDY RES.
GODEFFROY RES.
DELAWARE AQD
West Branch Reservoir
Croton Res.
BARRYVILLE RES.
N.Y.
N.J.
Kensico Reservoir
WALLPACK BEND RES.
OLD CROTON
Filter plant
Long Island Sound
FLATBROOK RES.
NEW CROTON
CITY TUNNELS
NEW YORK CITY
NEWARK
ROUND VALLEY RES.
RIDGEWOOD COND.
Filter plant
Pumping sta.
WARRINGTON RES.
Filter plant
PHILADELPHIA
CAMDEN
ATLANTIC OCEAN
PENN.
MARYLAND
Delaware R.
WILMINGTON
N.J.
MARYLAND
DELAWARE
Delaware Bay
Reservoirs existing or under construction
Aqueducts existing or under construction
1 Stages of the
2 Incodel Plan
3 (Alternate schemes)

THE RECOMMENDED PROJECT would mean construction of eight reservoirs. Those above the New York State Line would feed New York City and northern New Jersey as a first stage. Those below could later supply cities all the way to Wilmington. Light area is the Delaware River Basin.

• **The basin and the benefits**–With its tributaries rising another 50 miles upstream, the Delaware forms at Hancock, N. Y., and flows 326 miles to the sea. Over 5,000,000 people now live in its 13,000-sq mi basin, and another 10,000,000 in the metropolitan area of New York City and northern New Jersey are within two hours auto distance of it.

The upper third of the basin gets from 40 to 50 in. of rainfall yearly on its sparsely populated, wooded hills: 53 percent of this pure, clear, soft water runs off.

Flow at Trenton ranged from 1,220 cfs on the low day to 227,000 cfs on the highest day (between 1929 and

(Continued on page 30)

State officials differ on N. C. cement plant

North Carolina's Gov. Kerr Scott has warned against the stifling of his proposal that the state build a cement plant if it's feasible (ENR Sept. 15, 1949, p. 26).

He told the state Board of Conservation and Development that similar proposals had been studied in earlier years and "forces set in motion that stifled it," adding:

"I hope you won't let that happen again."

Scott said he replied to a "vicious" anti-cement plant letter with the assertion that he "didn't care whether the state or private industry does the job —I told him we wanted a plant if it is feasible."

Chairman Henry W. Jordan, of the Highway and Public Works Commission, said that the results of a $15,000 survey would be made available to industry, and added that "it is not contemplated that the state Highway Commission or any other state agency go into the cement manufacturing business." All the commission's looking for, he went on, is a break on the freight rates if a plant can operate.

◆

Massachusetts toll road opposed by all at hearing

Massachusetts highway users don't want a toll road across the state. A legislative commission studying the need for such a highway heard opposition to the proposal, recently, but found no witnesses who favored it.

Chairman James M. Keefe of the Massachusetts Highway Users Conference urged more and better free roads. Passage of an additional $100,000,000 highway bond issue, he said, would force a gasoline tax increase.

Sidney Von Loesecke, of the Automobile Legal Association, attacked the proposal as a potential drain on the state highway fund. He said toll roads never have been self-liquidating, that Connnecticut's Merritt Parkway was not meant to be self-liquidating, and that the Maine Turnpike is losing.

Farmers, grange members and merchants also opposed the toll road. The former sought better secondary roads instead. In addition, there was opposition to a proposed toll bridge across the Merrimac River.

◆

Plan sewer bond vote

An $8,000,000 revenue bond issue to complete Toledo's sewage disposal plant may be called by city officials. Revenue surveys to support such bonds have been started.

States determine basis for allotting federal aid funds for local hospitals

Most of them to disburse shares of $75 million yearly on uniform basis—Seven-year program could total $1.125 billion

Forty-six states have decided how they will parcel out their federal aid allotments to local hospital projects under the liberalized program enacted by Congress last October.

Five of the 46 have elected to apportion federal aid to local jobs on a sliding scale between fixed percentage limits, selected individually by the states. The remaining 41 have chosen to stick to the tested method of giving aid on a uniform percentage basis to all approved projects.

Each of these 41 states selected its own rate of uniform aid to community projects—within the 33⅓-66⅔ percent limits set by the amended federal law. Under the original 1947 act, Congress allowed a maximum of 33⅓ percent aid and authorized $75,000,000 of federal money per year for seven years, a total of $375 million from the government treasury, making possible an overall program of $1.125 billion.

• Aid doubled—Last year's amendment of the original Hill-Burton act doubled the annual federal assistance, making it $150 million a year, or a total of $1.05 billion for the seven years. The annual federal contribution is apportioned each year to the states. Each state distributes its apportioned federal money among projects in the state in accordance with its own established and approved formula.

Most states have chosen to give their local hospital jobs less than the 66⅔ percent maximum federal aid in order to stretch their apportionments to help more of the needed hospitals. Even with the doubled federal aid money now available, the enlarged program will take care of only one-fourth of the hospital deficiency in the country. Total needs amount to some 900,000 beds, according to Public Health Service estimates.

• Half for replacements—On the basis of percentage determinations so far made by the states, the national average of federal aid per project will be a little less than 50 percent, allowing a total program estimated at $2.25 billion. Only half of this money will represent added hospital capacity. The other half, it is believed, will be needed to replace obsolete facilities during the seven years of the program.

Of the 48 states, only Connecticut and Montana have not yet settled on their formulas for aid to local projects. Among other eligible participants in the program, the Virgin Islands is the only one still to make a decision.

Five states have chosen to follow more closely the original Hill-Burton philosophy by which a greater proportion of aid would go to the poorer communities. The five states will follow flexible formulas, apportioning aid to local projects on a basis of demonstrated need, between percentage limits that the states have established and PHS has approved. Power to vary their grants will subject the health authorities in those states to local political pressures, but they are willing to assume that risk in order to put the money where they think it is most needed.

Variable grant limits set by the five intrepid states are: Florida, 35 to 65 percent; Massachusetts, 33⅓ to 44; Michigan, 40 to 60; New Mexico, 33⅓ to 66⅔, and South Carolina, 50 to 65.

Percentages of federal assistance for hospital construction, by states, follow:

Alabama, 66.6; Arizona, 50.0; Arkansas, 60.0; California, 33.3; Colorado, 43.3; Delaware, 37.6.

District of Columbia, 33.3; Georgia, 60.0; Idaho, 33.3; Illinois, 38.8; Indiana, 50.0; Iowa, 33.3.

Kansas, 40.0; Kentucky, 66.6; Louisiana, 65.0; Maine, 55.0; Maryland, 44.0; Minnesota, 45.0.

Mississippi, 66.6; Missouri, 50.0; Nebraska, 53.26; Nevada, 33.3; New Hampshire, 33.3; New Jersey, 40.0.

New York, 33.3; North Carolina, 44.0; North Dakota, 46.5; Ohio, 33.3; Oklahoma, 60.0; Oregon, 33.3.

Pennsylvania, 40.0; Rhode Island, 40.0; South Dakota, 50.0; Tennessee, 52.0; Texas, 50.0; Utah, 45.0.

Vermont, 33.3; Virginia, 44.0; Washington, 40.0; West Virginia, 33.3; Wisconsin, 45.0; Wyoming, 33.3.

Alaska, 50.0; Hawaii, 33.3; Puerto Rico, 66.6.

◆

Ask housing plan change

Boston's City Council has asked the city Housing Authority to revise its vast expansion program in favor of garden-type homes rather than the three-story apartment structures which have been called for.

Slum clearance law aims at helping cities rehabilitate local tax rolls

In addition to low-rent housing, clearance of blighted areas for rebuilding will let private builders restore them

Congress offered U. S. cities more than low-rent housing when it passed the Tew bill—under another name—last year. Tied in with the housing subsidy was another part of the law that had held the support of the public housers throughout their fight for the Wagner-Ellender-Taft bill in the 79th Congress and the Tew bill in the 80th, finally passed by the 81st as the National Housing Act of 1949.

The second tine of the act's two-pronged attack on urban slums is a lever to help the cities reclaim their tax-loss areas and convert them into districts that pay their own way in the municipal fiscal scheme. Under this part of the law, a local redevelopment agency can buy run-down properties and clear all buildings off the land thus assembled. Then—to make approved development of the site economically attractive—the agency can sell the land at its fair re-use value, with the federal government picking up the check for two-thirds of the write-down loss incurred.

• New federal activity—Slum clearance by this process is a completely new venture for the federal government. Federal legislation to subsidize local public housing—both last year's act and the earlier one in 1937—have required equivalent tear-down of slums within a specified period after new dwellings are completed. So far, war and the housing shortage have precluded enforcement.

But the slum-clearance title of the 1949 act goes far beyond the limited concepts written into the low-rent housing legislation. It envisions an opportunity for the cities to take the first steps toward effectuating the overall redevelopment encompassed in their master plans. In fact, no redevelopment project can get approval for federal aid until it is shown to conform with the local overall plan for the city, area or district.

• Chance for private builders—Private enterprise is counted upon to buy most of the reclaimed sites and build upon them. That is the intention of the law. It requires that the local agency give private investors maximum opportunity to develop the various sites it acquires and clears. This restriction does not shut out the city from buying some of the sites—at the fair re-use price—for schools, parks, streets or low-rent public housing.

But most of the cleared land is to go into private hands, to be developed in accordance with the city's master plan. Two restrictions limit the types of property that can thus be reclaimed. First of the eligible classes is land now occupied for the most part by slum dwellings. Land of this kind can be cleared and sold for any use—industrial, commercial or residential.

In the second class is land now occupied mostly by commercial or industrial buildings. A site of this kind can be redeveloped only for predominantly residential use. No limit is set in the federal law on the sales prices or rental of housing thus provided.

• Vacant land restricted—A similar restriction—tying the property to predominantly residential use—governs sites that may be assembled of vacant land at the outskirts of the cities. Local agencies are authorized by the law to acquire and sell such open sites—in conformity with the master plan.

Because of the housing shortage, most of the local redevelopment agencies probably will be compelled first to tackle open sites. Until the pressure on the downtown slums has been relieved, the tenements cannot be cleared for new buildings.

Congress last July (ENR July 7, 1949, p. 23) authorized the slum-clearance program—to run five years—as part of the National Housing Act. The law further set up the cash to help the local agencies on their redevelopment projects: $1 billion for loans and $500 million for grants—the latter to pay the federal two-thirds share of the write-down costs. Not more than 10 percent of the money authorized can go to one state.

• It takes money—Thus, the train was loaded but it could not roll until Congress hooked on the locomotive. It was mid-October before funds were voted to staff the slum-clearance division of the Housing and Home Finance Agency, charged by the law

COST TO CORRECT HIGHWAY DEFICIENCIES

State	State Highways, Rural and Urban	County and Local Roads	City and Village Streets	Total Reported
Alabama	$234,000,000	$490,000,000	$120,000,000	$844,000,000
Arizona	150,096,000	70,000,000	37,000,000	257,096,000
Arkansas	239,468,000	66,000,000	24,000,000	329,468,000
California	1,415,000,000	389,287,000	760,713,000	2,565,000,000
Colorado	284,051,000	88,230,000	30,100,000	402,381,000
Connecticut	628,000,000	....	....	628,000,000
Delaware	99,000,000	(1)20,000,000	4,500,000	123,500,000
Florida	95,704,000	10,000,000	10,000,000	115,704,000
Georgia	539,341,185	638,325,000	50,000,000	1,227,666,185
Idaho	229,750,000	....	....	229,750,000
Illinois	1,128,895,000	564,864,000	825,158,000	2,518,917,000
Indiana	317,519,737	92,975,300	76,174,800	486,669,837
Iowa	482,282,155	463,134,514	....	945,416,669
Kansas	520,120,000	343,540,000	93,632,000	957,292,000
Kentucky	408,058,283	167,616,063	....	575,674,346
Louisiana	500,000,000	....	....	500,000,000
Maine	134,529,000	10,000,000	19,497,000	164,026,000
Maryland	700,000,000	....	....	700,000,000
Mass.	1,000,000,000	26,000,000	26,000,000	1,052,000,000
Michigan	879,507,582	319,654,300	235,748,805	1,434,910,687
Minnesota	490,900,000	261,700,000	86,200,000	838,800,000
Mississippi	147,735,000	267,961,000	73,096,000	488,792,000
Missouri	(2)256,000,000	....	....	(2)256,000,000
Montana	498,705,000	300,000,000	40,000,000	838,705,000
Nebraska	257,190,000	120,020,000	85,621,000	462,831,000
Nevada	86,264,000	....	....	86,264,000
N. Hampshire	192,935,000	16,356,000	8,925,000	218,216,000
New Jersey	518,700,000	126,100,000	109,000,000	753,800,000
New Mexico	157,427,728	....	5,000,000	162,427,728
New York	1,763,739,000	....	....	1,763,739,000
N. Carolina	132,000,000	(1)200,000,000	....	332,000,000
N. Dakota	200,000,000	50,000,000	....	250,000,000
Ohio	2,480,000,000	902,000,000	1,127,000,000	4,509,000,000
Oklahoma	202,000,000	121,000,000	41,000,000	364,000,000
Oregon	270,000,000	105,000,000	65,000,000	440,000,000
Pennsylvania	960,576,000	....	....	960,576,000
Rhode Island	180,000,000	25,800,000	73,200,000	279,000,000
S. Carolina	323,000,000	....	....	323,000,000
S. Dakota	293,000,000	107,616,000	13,032,000	413,648,000
Tennessee	600,000,000	400,000,000	220,000,000	1,220,000,000
Texas	1,294,000,000	1,068,630,000	....	2,362,630,000
Utah	213,128,000	48,000,000	14,300,000	275,428,000
Vermont	100,438,350	38,870,575	10,520,600	149,829,525
Virginia	217,600,000	(1)102,400,000	80,000,000	400,000,000
Washington	300,000,000	62,523,000	38,925,000	401,448,000
West Virginia	486,609,500	(1)300,000,000	....	786,609,500
Wisconsin	300,000,000	45,000,000	....	345,000,000
Wyoming	137,360,800	27,500,000	10,000,000	174,860,800
Dist. of Col.	....	....	200,000,000	200,000,000
Total	**$23,044,630,320**	**$8,456,102,752**	**$4,613,343,205**	**$36,114,076,277**

(1) State Jurisdiction.
(2) Incomplete, major state highway needs only.

to run the new operation. Since then, things have started to move.

Before a battery of cameras, HHFA Administrator Raymond M. Foley and Division Director Nathaniel S. Keith just the other day signed grant reservations totaling several million dollars with six cities—the first to reach the stage of tentative earmarkings for projects to be under way before July 1, 1951. To get such a money reservation—not binding on either party until a final contract is signed—the local agency has to produce a city council resolution affirming the city's purpose to proceed with the proposed project.

◆

California group sues to halt water project

Lompoc property owners oppose $30-million Cachuma project near Santa Barbara

A suit has been filed by a group of Lompoc, Calif., property owners to block action on the $30,000,000 Cachuma water development project near Santa Barbara.

The complaint attacks the validity and constitutionality of the Santa Barbara Water Act and the master contract through which the U. S. Bureau of Reclamation and county intend to supply water to the area.

The property owners question the unlimited authority of the Secretary of the Interior to fix assessments and water rates, declaring this power is an unlawful delegation of authority to the department.

Lompoc property owners claim that they do not stand to profit by the water project and therefore should not be bound by the terms of the master contract between the Water Agency and the Bureau of Reclamation.

Lawyers for the suing property-owners said that Lompoc cannot benefit from the Cachuma project because of the topography. "Yet," said Los Angeles attorney Alex W. Davis, one of the three lawyers representing the plaintiffs, "they are bound by the master contract to guarantee liabilities of the project should monies received from water sales not prove adequate to meet yearly payments."

Residents are also fearful that in case of earthquake, a break in the Cahuma Dam would result in a flood.

Defendants named are the five members of the Santa Barbara County Water Agency, who are the five county supervisors, the county clerk, and three others.

Attorneys for the plaintiffs said that if the master contract is rewritten to exclude them from any part of the liability, they will withdraw the suit and allow the project's construction to resume.

Seek policy ideas for water resources

EJC panel to set up task committee to draft essential requirements of a sound national water policy

Some time before mid-summer, the views of the engineering profession on the necessary elements of a sound national water policy are to be presented to the "Temporary Water Resources Commission" appointed by the President last month (ENR Jan. 12, 1950, p29).

• **Five groups join**—That is the word from the Water Policy Panel of Engineers Joint Council, which has had the subject under study for the past two years. Collaborating with the panel, which is made up of a representative from each of the five major engineering societies, will be the American Water Works Association, the National Water Conservation Conference and other such specialist organizations.

Immediate first step is to set up task committees covering various subdivisions of the fields of water conservation, development and use.

• **Qualified comment**—Says W. W. Horner, consulting engineer of St. Louis, ASCE member of the panel and its chairman, "Council has recognized its obligation to arrange for this public service undertaking because of the broad knowledge and experience of the members of the engineering profession in the general matter of water resources development and use. Probably no other group within the citizenship is so familiar with the pertinent essential facts and with current practice, or is so clearly aware of the adverse effect of present inconsistent and uncoordinated policies on the national economy. Service on the task force committees, now being organized, will involve personal sacrifices, but a ready response is anticipated. Members of the profession have heretofore been in the position of listing and discussing deficiencies and detriments under present policies and procedures. Here for the first time will be a broad opportunity to present constructive suggestions."

Invitations for task committee service are to go to selected members of the five national societies this month. Probably all five of the societies will be represented on certain of the committees, but this will largely depend on what fields of engineering practice are most closely related to the subject assigned to a committee.

The members of the EJC panel, who will have the administrative responsibility for the project, are R. D. Hoak, Mellon Institute, (Am. Inst. of Chemical Engineers); E. L. Clark, Missouri State Geologist (Am. Inst. of Mining Engineers); C. W. Mayott, Hartford Electric Light Co., (Am. Inst. of Electrical Engineers); W. F. Uhl, Charles T. Main Engineers, (Am. Soc. of Mechanical Engineers); and Mr. Horner.

RELOCATION TUNNEL—Construction of Boysen Dam, on Wyoming's Big Horn River, necessitated relocation of a Chicago, Burlington & Quincy railroad line through this 7,100-ft tunnel. The shaft will have three 12-ft dia. fans to exhaust fumes. (Acme Photo.)

◆

AGC sees construction at $30-billion this year

Associated General Contractors thinks this year's construction volume may hit $30 billion.

H. E. Foreman, who's managing director for AGC, says a study of private and governmental estimates indicates that, if business continues to enjoy favorable conditions, the work put in place by the industry this year may be more than $20 billion worth. In maintenance and repair work, Foreman went on, volume could amount to more than another $9 billion.

Volume last year, according to Foreman, totalled about $28.5 billion. Of this amount, maintenance and repairs accounted for about $8.75 billion.

Foreman said that the construction industry should exceed more than a $20-billion volume yearly for several years in the future if the needs of the nation's growing population are to be met satisfactorily.

(*Continued from page 26*)

1933). The low was more serious than the high, since the river is not subject to flood damage other than minor local flooding. (The worst recorded flood occurred in 1903—295,000 cfs at Trenton—and should recur only once in 300 years.)

Consequences of low flow are far more serious since the river below Trenton Falls is tidal and subject to salt intrusion. At periods of low flow, the salt line has come up to the Philadelphia-Camden area—one of the country's most important industrial areas—causing increased cost in treatment and damage to plants of industry and cities estimated in millions.

The proposed 4,000-cfs minimum at Trenton would keep serious salinity south of the Delaware-Pennsylvania state line. And in so going, it would bolster the multi-million-dollar oyster industry in the lower river and bay. Oysters in their early development prosper in two parts salt water, one part fresh. Greater concentrations of salt bring fish life that feeds on the oysters.

• **Clean stream advantages**—Pollution of the river has been the concern of Incodel since its inception in 1936. Above the confluence of the Lehigh at Easton and Phillipsburg, the Delaware is nearly free of pollution. The Lehigh drains a mining and industrial area and causes some pollution of the Delaware for a distance of about 20 miles, in which natural dilution and oxidation take place. Regulated flow will help here.

Below Trenton, Incodel's program of pollution control has a vast job to do. Again, regulated flow will help. Future development of industry in the area depends to a large measure on availability of a supply of water.

• **Power**—At present, there are 17 hydro-power developments in the basin totalling only 80,000 kw—7 percent of the capacity of steam-power plants in the area. An Army "308" report has judged the Delaware unsuited for economical development of power on any large scale except as incidental to water supply. Four hydroelectric plants are considered by Incodel's engineers in their preliminary report. Rough estimates set potentials as follows: Cannonsville, 5,510 hp; Fishs Eddy, 8,580 hp; Barryville, 10,070 hp; Wallpack Bend, 7,210 hp.

Population curves for every economic unit in the basin have been drawn through 2,000 A. D. (consultants see New York City leveling off at 9,250,000 by then). Water consumption per capita is expected to increase further, but the engineers warn that waste cannot be tolerated. They submit that areas with unmetered service should study immediately the economics of metering.

Studies were started for this report in July, 1949. But the consultants had a wealth of previously gathered data at their command. Earlier studies by the Corps of Engineers, New York City, Philadelphia, and others all contributed. J. H. Allen is Incodel's executive secretary.

Florida bridge collapses but two motorists escape

A concrete arch bridge of 72-ft span collapsed recently at Fort Lauderdale, Fla. Two motorists had narrow escapes from dropping into a canal.

No explanation of the collapse was available, but apparently a pile-supported abutment receded, putting tensile stresses in the plain concrete.

The collapsed section was built in 1923. Several years ago, the bridge was widened by the erection of a new reinforced-concrete beam span on each side. These newer structures rest on piers founded on rock.

State highway repair crews worked on the structure some time ago and noticed that the roadway of the original span was depressed somewhat below the level of the side spans. They resurfaced the old span to grade.

Bids for replacing the collapsed span were to be opened by the highway department at Tallahassee Jan. 26. Replacement cost has been estimated at about $65,000, with the design to be that of the side spans. Since the bridge is on the main route between Fort Lauderdale and its beach, traffic will continue to use the side spans while the new one is being built.

NYC pushes its "Stage 3" reservoirs

Thursday last week (Jan. 26) was a big day for discussing the fate of the Delaware River. While Incodel's consultants presented their report to the commission (see p. 25) at New York's Roosevelt Hotel, the city's Board of Estimate was holding a public hearing on Stage 3 of the Delaware system at City Hall.

Result of the hearing: The Board of Water Supply's proposed $140-million addition was approved with funds to be appropriated as needed. The scheme must now go to a State Water Power and Control Board hearing.

• **Conflict seen**—But, Stage 3 of the city's plan calls for a reservoir at Cannonsville, N. Y., to deliver 323 mgd to the Delaware Aqueduct at Rondout Reservoir through a 44-mile, $81,000,000 tunnel. Incodel's plan also includes that Cannonsville storage—without the delivery tunnel. In Incodel's plan, Cannonsville Reservoir would be solely for regulation; no water would be diverted there.

Now the problem will be to reconcile the city's plan with Incodel's—assuming Incodel's plan goes ahead.

Commissioner Irving V. A. Huie of the Board of Water Supply reiterated his hope, after the hearing, that New York City might build at Cannonsville and turn the reservoir over to the interstate agency—"subject to financial and other appropriate considerations"—when it is formed.

• **Court ruling involved**—Another problem facing New York in its quest for more water (needed by 1960) is the Supreme Court decree of 1931 that limited the city to 440 mgd from the Delaware watershed (see ENR Dec. 22, 1949, p. 26). This decision clearly left the way open to future application for more Delaware water. The city will doubtless make such a request if Stage 3 is approved.

What the Supreme Court does may be largely a function of how much progress the basin states have made toward integrated development of the river according to the methods proposed by Incodel's consultants.

CONSTRUCTION BUSINESS

Earthwork costs drop in Downsville bid

Joint bidders from Massachusetts entered the sensational $17.9-million low bid on New York City's Downsville Dam January 17. Almost $12 million, and 40 percent below the high bid, it is $1.3 million below the second bid and $3.4 million and 16 percent below the fourth place bid entered by S. A. Healy, contractors (on Neversink and Merriman Dams).

Commenting on the great difference between the bids on earthwork at Downsville and Neversink, a spokesman for the low bidders said his organization had "considerable" machinery available in the area, for immediate use on the project. He added that the bid was based on plans to use shovels and dump-trucks.

Downsville attracted 9 bidding combinations made up of 17 contractors from 9 states. The low combination is Carlo Bianchi and Co., Inc., Framingham, Central Construction Co., Lawrence, Munroe-Longstroth, Inc., No. Attleboro, and G. L. Rugo & Sons, Inc., Boston, Mass., at $17,902,275.

Rolled embankment Class B is the largest item in unit price analysis for Downsville Dam, $1.05 per cy bid by the low bidders; $1.50 bid by Healy, compared with $1.90, the 1948 price in the contract for Neversink Dam. The Class A embankment low bid on Downsville is $1.05 compared with $1.50, the Healy bid, and with $2.05 the 1948 Neversink contract price.

The concrete masonry low bid is $15.50 for open cut in Downsville compared with $22.00 per cy in 1948 for Neversink; tunnel concrete is $20 on Downsville compared with $30 on Neversink.

Rock embankment in the Downsville low bid is $1.05 per cy against $1.90 for Neversink, rock excavation $3.50 against $5.00.

Earth excavation in the Downsville low bid, however, reverses the pattern, $3.50 compared with $0.50 on Neversink and $0.60 bid by Healy on Downsville.

Refill embankment, tools, $1.00 in the Downsville low bid against $0.20 on Neversink and $0.20 also on the Healy Downsville bid.

Contracts have not been awarded as this goes to press.

The next to low bid is $19,209,028 by Savin Construction Co., East Hartford, Conn., the third, $20,551,300, by the western combination, Morrison Knudsen Co., Inc., Boise, Idaho and New York City, Peter Kiewit Sons' Co., Omaha, Bates and Rogers Construction Corp., Chicago, Macco Corp. Paramount, Calif.; and the fourth, $21,298,500 by S. A. Healy Co., White Plains, N. Y. The high bid, $29,800,000 is from Engineering Construction Corp., Wilmington.

◆

Steel price increases vary widely among cities

Warehouse quotations on steel prices are varying all over the lot since the 15 cents a cwt rise in the mill price. Changes run from no increase at all up to 50 cents a cwt more on structural shapes.

Reinforcing bar prices show a more consistent pattern, generally up 10-16 cents, but in some cases range up to 44 cents.

Quotations are unchanged in Denver, Philadelphia, and Atlanta.

Warehouse quotations by cities follow: Cincinnati, shapes and bars both up 15 cents; Chicago, shapes and bars both up 10 cents; Boston, shapes up 13, bars up 10; Minneapolis, shapes up 12, bars up 19; St. Louis, shapes up 16, bars no change; Pittsburgh, shapes and bars both up 45 cents (reported a month ago); Baltimore, shapes up 38, bars 44; Cleveland, shapes up 17, bars 10; Kansas City, shapes up 15, bars 10; Dallas, shapes up 50, bars 30; Detroit, shapes up 20, bars 16; Birmingham, shapes up 12, bars 7; Los Angeles, shapes up 35, bars no change; New Orleans, shapes no quote, bars up 40; San Francisco, shapes and bars both up 10; New York, shapes up 32, bars 10; Seattle, shapes are up 15, bars are up 10.

Pittsburgh, Dallas and Baltimore show the greatest rises in warehouse quotations on structural shapes and reinforcing bars. In New York and Los Angeles, shapes are up steeply.

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Road and bridge contracts coming in fast this year

Road and bridge contract volume started with a bang this year—dollar volume up a third from the previous two years and more bidders per job.

Highway contracts let in the first three weeks of 1950 were 33% greater than in the same period of the all-time record year 1948, and 38% above 1949, when roads made a poor early start.

Bridge contracts are running about the same as in the record year 1949 but 47% ahead of the same period in 1948, second biggest year for bridges.

Number of bidders per job is also on the rise. January contract letting of the Oklahoma State Highway Commission established a new record for number of bids received. On 28 projects, 160 bids were offered.

In Louisiana, where a previous scarcity of both contractors and materials held up road construction, there is now exceptionally keen bidding on new road jobs, large and small.

◆

Rules Ohio non-union low bidder gets contract

Low bidder gets the contract award, whether his labor is non-union or union, other things being equal, according to Prosecutor Ralph J. Bartlett of Franklin County, Ohio.

In an opinion based on Ohio Supreme Court decisions, Bartlett said the Children's Home Building Commission at Columbus, Ohio must award an electrical contract to Westgate Electric Co., low bidder employing non-union labor, for $38,201 instead of to the McCarty Electric Co., union firm which bid $41,467.

The commission had awarded the contract to the McCarty firm after being told that "labor trouble might develop with non-union help.

◆

Structural steel orders down 17% from a year ago

The backlog of orders for fabricated structural steel for the next four months is 17% below what it was a year ago, in spite of the recent steel strike, according to the American Institute of Steel Construction.

Present order backlog of 555 thousand tons compared with 669 thousand tons at this time last year.

No shortages are anticipated, as the steel industry expects it will easily produce the tonnage on order.

Because of the recent steel strike total 1949 shipments of fabricated structural steel are 7% below 1948. They totaled 1,853,536 tons.

Estimated total bookings (orders) for the year 1949, on the other hand, were only 1,432,973 tons, which is 27% below orders in 1948.

◆

Materials prices steady

Building materials prices held steady for the fifth week in a row at 190.3 (1926 = 100), according to the composite index of the Bureau of Labor Statistics for January 24.

BIDS AND BIDDERS

(Major project news received after Construction Reports, page 66, went to press.)

Hudson River Pumping Plant—Board of Water Supply, City of New York, will open bids February 20 for design, construction and installation of electrically operated or direct-connected, diesel-operated pumping plant to lift 100 million gallons of water daily from the Hudson River and a chlorinating plant to sterilize water before pumping into New York City aqueduct. The plant is to be at Chelsea, Town of Wappingers, Dutchess County, N. Y.

Railroad and Mine Development—Liberia Mining Company Ltd., New York, N. Y., will construct 45-mile railroad from Monrovia to iron deposits in Boni Hills and develop mines in Liberia, Africa, the project to cost about $8,000,000.

Hospital—Bid opening for the $7,000,000 Mount Sinai Hospital, New York, N. Y., has been extended to March 15. Kahn & Jacobs, New York, N. Y., are architects. York & Sawyer, New York, N. Y., are consulting architects, and F. M. Severud, New York, is engineer for the job.

Apartments—Paul Tishman Co., Inc., and Sol Atlas, New York, N. Y., will construct three 15-story apartments in Brooklyn, N. Y., for Concord Freeholders, Inc., New York, N. Y., to cost $4,000,000. Benjamin Braunstein and Alfred H. Ryder, Jamaica, N. Y., are architects. Excavation will begin in about ten days.

Housing—Newport Municipal Housing Commission, Newport, Ky., plans constructing 10-story apartments with garages, in Newport, Ky., to cost about $8,000,000. Meriwether, Marye & Associates, Lexington, are architects.

Highway, Underpass and Bridges—J. Robert Bazley, Inc., Pottsville, Pa., was low bidder at $2,444,300 when the State Highway and Bridge Authority, Harrisburg, Pa., opened bids, to construct 4.05 miles three- and four-lane highway, underpass and bridges in Schuylkill County, Pa.

Dredging—Eastern Engineering Co., Atlantic City, N. J., has been awarded contract for dredging, floodway, clearing and excavating in Section 3, Schuylkill River Desilting Project, at $2,083,467. Pennsylvania Department of Forests & Waters, Harrisburg, awarded contract.

Spingarn High School—Cramer-Vollmerhausen Co., Inc., Washington, D. C., was low with a bid of $2,877,700 for constructing Spingarn High School at Washington, D. C., when the District Commissioners opened bids January 26. Merrill A. Coe, municipal architect, designed the high school building.

Hospital—Sam W. Emerson Co., Cleveland, O., at $1,581,000, was low bidder, January 24 on general contract for constructing tuberculosis hospital at Warrensville, O., when Board of Cuyahoga County Hospital Commissioners opened bids. This is 36 percent below the estimated cost of this contract, $2,468,000. George S. Rider Co., Cleveland, is architect. Total cost of the hospital project is estimated at $4,900,000.

Hospital—Commissioners, Dade County, Miami, Fla., received low bid on January 24 from Fred Howland Co., Miami, for 7-story addition to Jackson Hospital at Miami, at $2,687,252. Stewart & Skinner, Miami, are architects for the addition.

Apartments—Dubin & Dubin, architects, Chicago, Ill., will take bids February 20 for 14-story apartment, in Chicago, to cost about $4,800,000 for unnamed owner.

Airport—Morrison-Knudsen Co., Inc., San Francisco, Calif., has been awarded contract at $2,585,053 for paving, grading, runways at San Francisco Airport by the Public Utilities Commission, San Francisco.

Roads—Department of Public Works, State of New York, Albany, received low bids January 25 from Hudson Contracting Corp., Kew Gardens, N. Y., for section of Van Wyck Expressway, Queens County, at $1,265,232. At the same opening, John C. Peterson Construction Corp., of Baldwin, N. Y., bid $1,657,026 as low bidder on the proposed south extension of Bronx River Parkway.

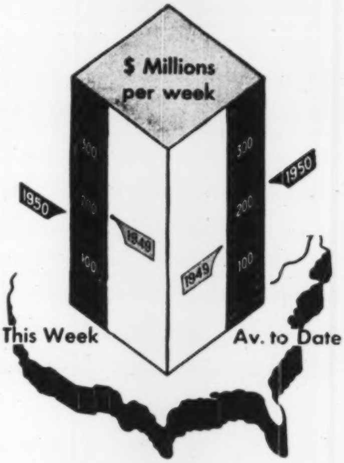
Apartments—Glen Meadows, Inc., Cincinnati, O., will take bids February 10 for apartment buildings at Cincinnati to cost $2,500,000. Potter Tyler & Martin, are architects, Henry Fletcher, landscape architect, William S. Ehlers, mechanical engineer, and Larson, White & Hunt, consulting engineers, all of Cincinnati.

Hospital—J. P. Ewin, Inc., Mobile, Ala., has been awarded contract at $2,452,998 for constructing hospital at Providence Hospital, Inc., Mobile, Ala. Charles H. McCauley, Birmingham, is architect.

COSTS AND VOLUME

ENR INDEX NUMBERS

Index Base = 100		1913	1926
Construction Cost..	Jan. '50	484.74	233.01
Building Cost	Jan. '50	356.09	192.49
Volume	Dec. '49	310	136



Activity This Week

As reported to ENR
(in millions of dollars)

Amount of contracts let

	Week of Feb. 2 1950	Cumulative 1950 (5 wks.)	Cumulative 1949 (5 wks.)	% chge
Federal	$22.7	$298.2	$135.3	+120
State & Mun.	47.5	259.3	262.2	−1
Total Public	$70.2	$557.7	$397.4	+41
Total Private	90.5	518.6	378.1	+37
U. S. Total.	**$160.7**	**$1,076.2**	**$775.5**	**+39**

Contracts by type of work

	This Week	Cumulative 1950 (5 wks.)	Cumulative 1949 (5 wks.)	% chge
Waterworks.	$1.4	$25.8	$12.4	+108
Sewerage ..	4.5	21.5	21.2	+1
Bridges	4.5	30.5	32.7	−7
Highways ..	18.2	81.3	50.0	+63
Earthwork, Waterways	9.0	35.0	52.3	−33
Buildings,				
Public ...	27.1	321.4	202.1	+59
Industrial .	8.2	83.1	76.5	+9
Commercial	76.6	396.2	258.5	+53
Unclassified .	11.2	81.4	69.9	+16

NOTE: Minimum size projects included are: Waterworks and waterway projects, $28,000; other public works, $50,000; industrial buildings, $68,000; other buildings, $250,000.

New capital for construction

	Cumulative 1950 (5 wks.)	Cumulative 1949 (5 wks.)	% chge
NON-FEDERAL ...	$371.3	$477.3	−22
Corporate Securities	116.4	277.4	−68
State and Municipal	254.9	199.9	+28
Total Capital	**$371.3**	**$477.3**	**−22**

N. E. anti-pollution group names J. C. Knox secretary

The New England Interstate Water Pollution Control Commission, 73 Tremont St., Boston, has announced the appointment of Joseph C. Knox, formerly associate sanitary engineer of the Massachusetts Department of Public health, as secretary of the commission.

Mr. Knox was with the department for more than 23 years and has been engaged in all phases of sanitary engineering work. He conducted special legislative investigations on stream pollution problems. From 1937 to 1940 he supervised the Works Progress Administration stream pollution projects sponsored by the department.

COUNCILMEN GET FIVE DAYS IN LOS ANGELES SEWER ROW

The five councilmen of Vernon, Cal., have been sentenced to five days in jail for failure to comply with a court order that they arrange to pay for the city's share in the cost of the $49,000,000 Hyperion sewer project.

Superior Judge Joseph W. Vickers, who ruled them in contempt of court, also fined the five $500 each, assessing the city itself another $500.

The attorney representing the city and council, Edward R. Young, asked a stay of execution. Judge Vickers granted a stay until Jan. 31, when he ordered the councilmen to return prepared to serve their sentences.

Commenting that the punishment was "hardly adequate," he further ordered that the five officials were to stay in jail until they had completed arrangements for paying Vernon's share.

The original court order required Vernon, along with other satellite cities of Los Angeles, either to construct separate sewage facilities or to arrange to share in the cost of Hyperion.

In his contempt ruling, Vickers said: "Vernon had a contract with the city of Los Angeles under which it claimed it did not have to furnish any funds for the project.

"This court declared that position was not tenable. The District Court of Appeal upheld that opinion in language that could not be misunderstood.

"The city of Vernon still chose to rely on this contract as a defense. In doing so, it is apparent that they placed their opinion above that of the court.

"They are guilty and have been proved guilty of contempt of court as charged, particularly for failing, within 90 days of remittitur, to complete all arrangements for financing of Vernon's proportionate share."

Oregon demands paper mill cleanup as stream clearing drive accelerates

Manufacturers protest state sanitary authority ultimatum—Cite studies of problem now going forward in laboratories and mills

Five Oregon pulp and paper companies pushed hard last week—both in court and in the laboratory—to comply with an ultimatum issued by the state's sanitary authority.

The sanitary authority set a deadline of Dec. 31, 1951, and ordered the mills to cease pollution of the Willamette River by that time, under threat of being shut down for lack of compliance. The affected mills are Crown Zellerbach, at West Linn and Lebanon; Publishers Pulp & Paper Co., Oregon City; Spaulding Pulp & Paper Co., at Newburg, and the Oregon Pulp & Paper Co. at Salem.

• Warning—The order followed by six months a notice from the sanitary authority of its intention to issue the order. However, only Crown Zellerbach has offered any plan for reducing pollution since that date. The companies will be given what the state says is a final opportunity to present their objections to the order at a public hearing scheduled for Feb. 15 at Portland.

The general reaction of the mill owners was one of frustration. "You might as well make the effective date the day after tomorrow," said Frank McCollogh, attorney for the Publishers company. "The industry and this company are making special effort to solve this problem, but it is unsolvable."

Supporting this view was F. N. Youngman, vice-president of Crown Zellerbach, who declared false any statement that pulp and paper companies are making no effort to stop pollution of the Willamette. He said his company and others are spending "hundreds of thousands of dollars" each year on plant research and on grants to colleges to try to find a solution to the pollution problem. "We're not ever going to reach the point where the Willamette will be safe to swim in or drink," he commented, "but it can be cleaned up and the paper and pulp industry is paying its own way toward solving this problem."

• Tied to sewer development—The deadline for stopping pollution of the river coincides with the time set for completion of Portland's $15,000,000 sewage disposal system.

Actually, to date, the only suggestion offered by the companies has been from Crown Zellerbach, which has proposed that it shut down operation at its sulphate pulp mill at Lebanon for three months each year, when water in the South Santiam River—a Willamette tributary—is low.

Meanwhile, pulp and paper producers are following with great interest processes being developed by the Weyerhaeuser Timber Co. at its Longview, Wash., and Springfield, Ore., plants. A magnesia base system is in experimental operation at the Longview plant. This system involves major changes in the usual sulphate mill process and such an expense that many mills may be unable to finance it. However, at the Springfield plant, special equipment developed in Sweden has been installed to provide a contamination-free effluent discharge into the McKenzie River. Condensates collected in the process—which could have odorous gases dissolved in them—are carefully collected and sprayed into a tower counter-current to furnace stack gases. Dissolved gases in the condesates are stripped out and carried up the stack, leaving nothing but relatively pure water.

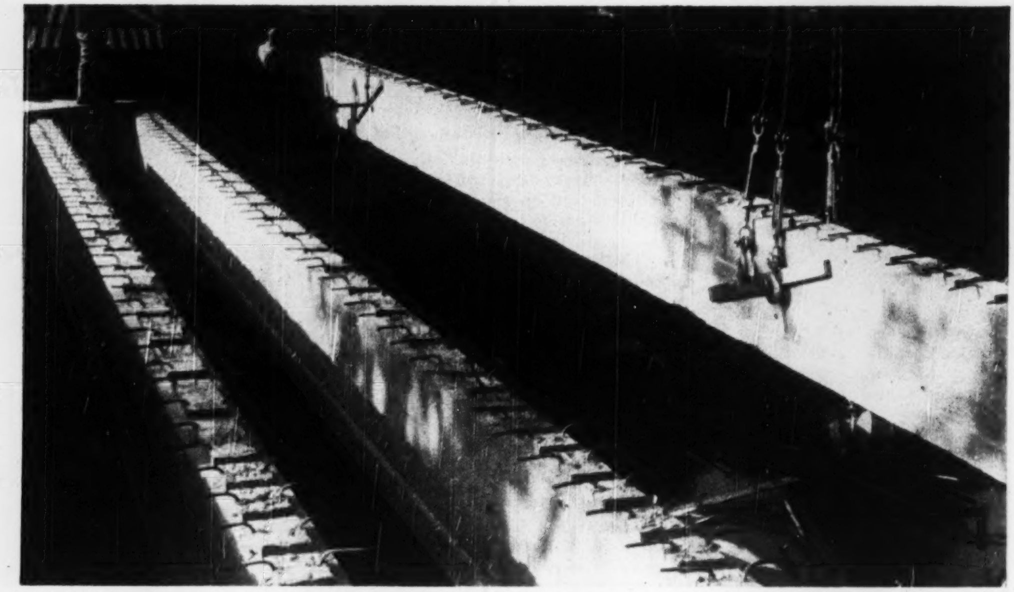
• Another safeguard—Being experimented with by Weyerhaeuser is the Sven Pederson Saveall. The water used to transport pulp stock to the paper machine, and then drained away when the sheet of paper is formed, carries considerable fiber. As much of this as possible, is reused without clarification but a portion must be made stock-free before it can be reused or discharged to the sewer. The Saveall, operating on the principle that pulp fibers will float in water which has alum and glue mixed in it (if sufficient air clings to the fibers) processes the water by skimming the fiber off.

Additionally, Oregon State College engineers are working on four studies related to reducing pollution characteristics of sulphite liquor wastes.

◆

Washington order similar

Four Washington firms have been ordered to install facilities for sulphite waste control before Sept. 1. The move, by the state Pollution Control Commission, is directed at saving Washington's fishing industry from destruction by pollution.



PRECAST BRIDGE GIRDERS ease onto old abutments. Ledges on girders will support forms for decks, to be cast in place. This technique enabled Lowell, Mass., to obtain swiftly at low cost structures capable of carrying modern highway loadings.

Municipal Bridge Maintenance Cut

Stephen Kearney
City Engineer
Lowell, Mass.

PRECASTING TECHNIQUES have been adapted by Lowell, Mass. to pull the city out of a bridge-maintenance hole. The city has, in addition to Merrimack and Concord river crossings, 40 other bridges over River Meadow Brook and various industrial canals. These structures range from 20 ft. to 55 ft. in length.

During the war this city, like most other municipalities, was unable to keep up its bridge maintenance, due to scarcity of materials and labor. When proper maintenance could be resumed, it was found reconstruction was necessary on a number of spans.

Many of these bridges were of wood and of limited capacity. The city engineer's office studied various new types for the reconstruction. The problem was to obtain structures capable of sustaining modern highway loadings, considering also speed of construction, low first cost, and minimum maintenance costs thereafter.

The result was, for spans up to 20 ft., the selection of a precast plank or channel-slab construction capable of carrying H-20 loadings; for greater spans (up to 55 ft.) a variation of the precast joist arrangement was selected. In the latter, the beam was to be precast and the deck slab cast-in-place, the whole designed to act as a T-beam structure after the deck concrete had hardened. The problem of supporting the forms for the deck-slab was solved by designing ledger strips along the lower edges of the precast beams. This type, too, was to be capable of carrying H-20 loadings.

With these patterns in mind, provisional designs for each bridge were supplied as a basis for bids.

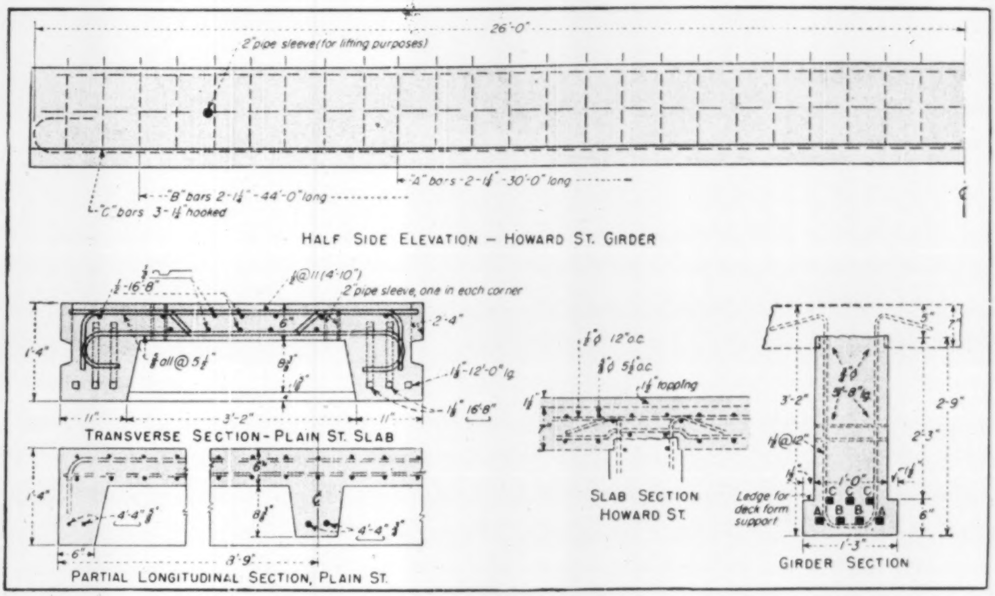
The contract called for the reconstruction of 5 bridges:

Street	Width	Spans
Plain	40 ft.	317½ ft.
Dutton	36 ft.	139 ft.
Newhall	36 ft.	136 ft.
Howard	40 ft.	152 ft.
Cabot	41 ft.	337 ft.

In all cases the substructures were found to be sound, with little renovation required to build new bridge seats and back-walls. Most of the additional preparatory work consisted of guniting the old abutments and piers; this work was part of the contract.

The engineer's estimate was $100,000, and $90,393 was the low bid of the William J. Hurley Construction Co., Lowell, Mass., who was awarded the contract. In the specifications, provision was made for owner's approval of a proper and responsible firm for the precasting. The approved firm was required to show that it had proper equipment, sound experience and the necessary facilities for casting and curing such large beams and slabs. On this basis, the Durastone Co., Inc. of Saylesville, R. I., received the subcontract.

Under the specifications, the contractor was made responsible for the beams and slabs that would result in a structure capable of sustaining H-20 loadings, in accordance with the provisional plans. The contractor retained Robert C. Hanckel, consulting engineer, to make recommendations in


26'-0"
2" pipe sleeve (for lifting purposes)
"B" bars 2-1¼"-44'-0" long
"C" bars 3-1¼" hooked
"A" bars-2-1¼"-30'-0" long
HALF SIDE ELEVATION – HOWARD ST. GIRDER
2" pipe sleeve, one in each corner
1'-4"
11"
3'-2"
TRANSVERSE SECTION-PLAIN ST. SLAB
PARTIAL LONGITUDINAL SECTION, PLAIN ST.
8'-9"
6"
1¼" topping
SLAB SECTION HOWARD ST.
Ledge for deck form support
3'-2"
2'-9"
2'-3"
1'-0"
1'-3"
6"
GIRDER SECTION

GIRDER AND SLAB designs for precasting. Top and right-side drawings show Howard St. bridge girder, to which cast-in-place deck was added to complete T-beam design. Lower left drawings detail slabs for short spans. Thirty-six of these covered one bridge.

By Precasting Techniques

precasting and in the placing of the beams and slabs.

Durastone did an admirable job of precasting, keeping pace with the time schedule for truck delivery from the plant 65 miles away. In manufacture, to insure proper reinforcement spacing, the rods were tack-welded together in cage arrangement before being placed in the wood forms. Thompson, Lichtner Co., Inc., acted as consulting and testing engineers for the city and they found the concrete quality uniformly good, the design strength being 4,600 psi. at 28 days.

The design strength for the cast-in-place slabs was 4,000 psi. at 28 days.

Individual bridges

The Plain St. bridge, consisting of precast slabs, was set on the prepared seats, jointing keys were poured, bituminous topping was laid, railing was completed and the bridge was opened to traffic within 11 days after slab delivery.

On Dutton St., half of the street was kept open to traffic. When the second half of the deck slab was poured, high-early cement concrete was used, permitting vehicular traffic to use the bridge after 72 hours.

On Howard St., due to the long span, shores were installed at midspan under the precast beams while the deck was poured and until this concrete had hardened properly, in order to keep beam deflection to a minimum.

On Cabot St., the three spans were made a continuous structure by casting a solid diaphragm at the piers, and providing extra negative steel in the deck to care for the negative moment.

Newhall St. presented no special problem.

The slabs for Plain St. each weighed 6 tons, while the precast beams varied in weight from 6½ tons at Newhall St. to 12 tons each at Howard St. A 20-ton crane unloaded the precast members and placed them on the abutment and pier seats. Time for handling each beam ran from 12 min. for the small ones, to 20 min. for the larger beams. All bridges were supplied with welded pipe-rail fences, built on the job.

The entire contract was completed within a period of three months after the first delivery of the precast units. The cost per sq. ft., which included 5-ft. approach slabs for Newhall St. and 10-ft. approach slabs for the others, is:

Plain St.	$7.40
Howard St.	9.13
Dutton St.	6.68
Cabot St.	6.61
Newhall St.	7.10

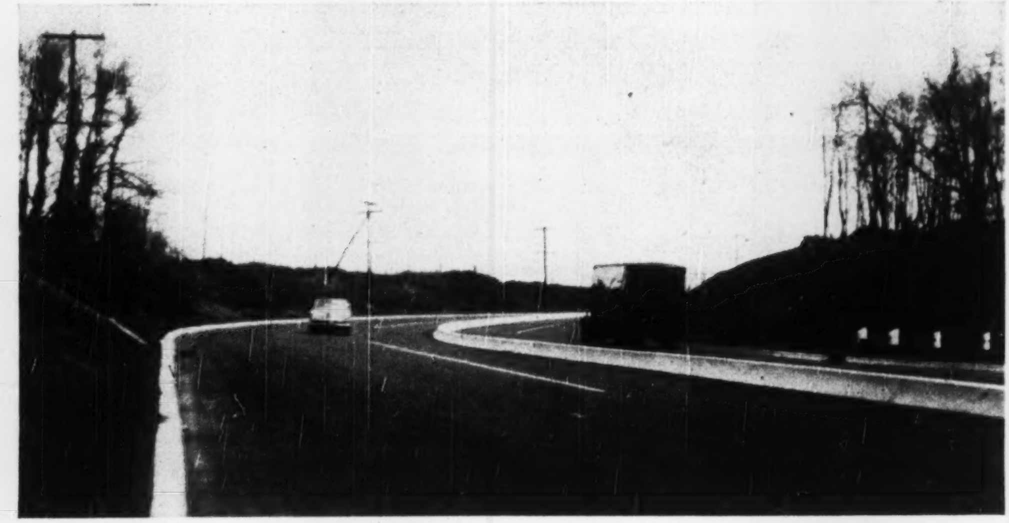
For the City, Frederick F. Meloy was designing engineer, George M. McDonough, construction engineer, William H. Molloy, chief inspectors.

Mud-Covered Garbage Fills City's Swamps

A recent breakdown of the city's incinerator plant gave Cleveland's sanitation department a chance to try a unique garbage disposal method that city officials hope will not only dispose of the garbage, but also of a number of swamps.

Under direction of John W. Klag, commissioner of streets, the city began experimenting with a variation of sanitary land fill by covering refuse with mud scooped from swamp bottoms with a dragline.

While repairs to the city's old incinerator go forward, a dragline was moved over to the nearest swamp, and set to work.



WIDENED U. S. 22 near the top of Jugtown Mountain showing the high center barrier installed as a safety measure.

High Center Traffic Barrier Installed on Steep Hill

A HIGH CENTER BARRIER has just been installed on both slopes of the highway over the Musconetcong Range on U. S. Route 22 in western New Jersey. The work is part of the reconstruction of the road, in progress for several years.

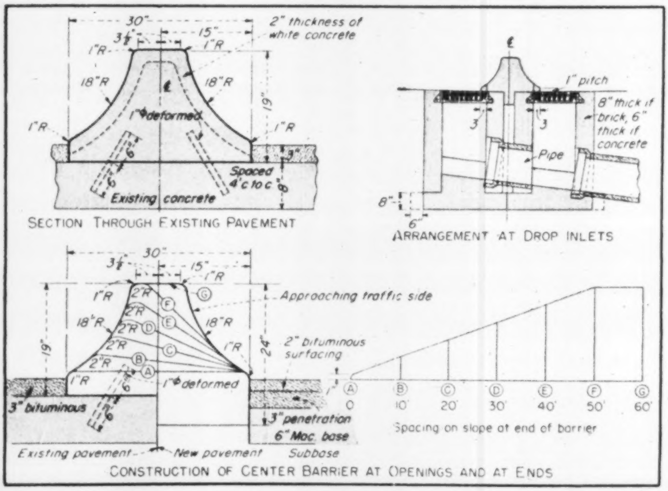
Route 22 is the main east-west highway for trucking operations across New Jersey. For many years the old two-lane road over Jugtown Mountain, especially the steep and winding west slope, has been the scene of several collisions due to passing slow-moving vehicles or in many case due to vehicles getting out of control. Widening to four lanes was undertaken early in 1948.

The shape of this barrier is the result of extensive tests made by the New Jersey highway department. It is designed to clear the mudguards and running boards of cars that sideswipe the curb and to deflect automobiles back onto the roadway without a sudden stop that might result in injury to passengers or serious damage to the vehicle.

A median deflector of somewhat similar design was installed in 1946 on steep slopes of the highway between Los Angeles and the San Joachim valley in California (ENR July 10, 1947, p. 36). It is of precast concrete, 26 in. high above the pavement.

High median barriers also have been used in some places to separate opposing lanes of traffic on divided highways where right-of-way restrictions did not make the installation of a wider median zone practical.

Design studies for the barrier installed on U. S. Route 22 in New Jersey were begun under Charles M. Noble, former state highway engineer, Harold W. Griffin, supervising engineer, and Fred L. Gerard, district engineer, surveys and plans. Installation was made under Edward W. Kilpatrick, acting state highway engineer. A. J. Cunningham & Sons, Trenton, were contractors on the widening work.


30"
2" thickness of white concrete
3½"
15"
1"R
18"R
℄
19"
1"ϕ deformed
3"
Spaced 4" c to c
6
8"
Existing concrete
SECTION THROUGH EXISTING PAVEMENT
1" pitch
8" thick if brick, 6" thick if concrete
3
Pipe
6"
ARRANGEMENT AT DROP INLETS
2"R
A
B
C
D
E
F
G
Approaching traffic side
24"
2" bituminous surfacing
3" bituminous
3" penetration
6" Mac. base
Existing pavement
New pavement
Subbase
0
10'
20'
30'
40'
50'
60'
Spacing on slope at end of barrier
CONSTRUCTION OF CENTER BARRIER AT OPENINGS AND AT ENDS

HIGH CONCRETE BARRIER for separation of opposing lanes of traffic on a steep highway in New Jersey.

Small-Area High-Rate Filter Plant Adds Capacity, Prevents Pollution

Frank L. Flood
Partner, Metcalf & Eddy
Boston, Mass.

COMPLETION of the new sewage disposal plant at Bristol, Conn., more than doubles previous treatment capacity and eliminates stream pollution. It replaces the original slow sand-filter installation, which discharged partially treated effluent.

To serve 40,000 persons, the new high-rate trickling filter plant is designed for complete treatment of 3.5- and 8.0-mgd. average and maximum flows, respectively. This is accomplished with 0.3 acre of filters as compared to 27 acres of sand beds that were inadequate for 20,000 population.

Assuming 2-ppm. biochemical oxygen demand in the Pequabuck River—the new source of dilution—and 33 ppm. in the effluent, the resultant 5-day BOD. downstream from the plant will be about 12 ppm. during 10.2-cfs. minimum dry-weather flow. Dissolved oxygen in the river is not expected to fall below critical value as a result of the effluent discharged. Natural purification and reaeration as well as dilution increments will preclude formation of objectionable conditions in the river.

Treatment facilities outlined

The new plant (Fig. 1) includes: Grit channels, a Parshall sewage-metering flume, comminutors, bypass rack, primary settling tanks, high-rate trickling filters, final settling tanks, chlorinators, a recirculation and low-lift pumping station, sludge digestion tanks, open drying beds and administration building.

Two parallel grit channels are designed for controlled water-level operation at an average velocity of one foot per second and 100 percent removal of particles retained on a 65-mesh screen.

The channels are equipped with drains that discharge to a small leaching bed. Grit will be excavated from the channels after dewatering, and hauled to disposal on nearby low-lying areas.

The Parshall flume is equipped with a flow indicator (Fig. 2) and transmitter and connected to a register-indicator-recorder in the administration building and a flow indicator in the recirculation pumping station.

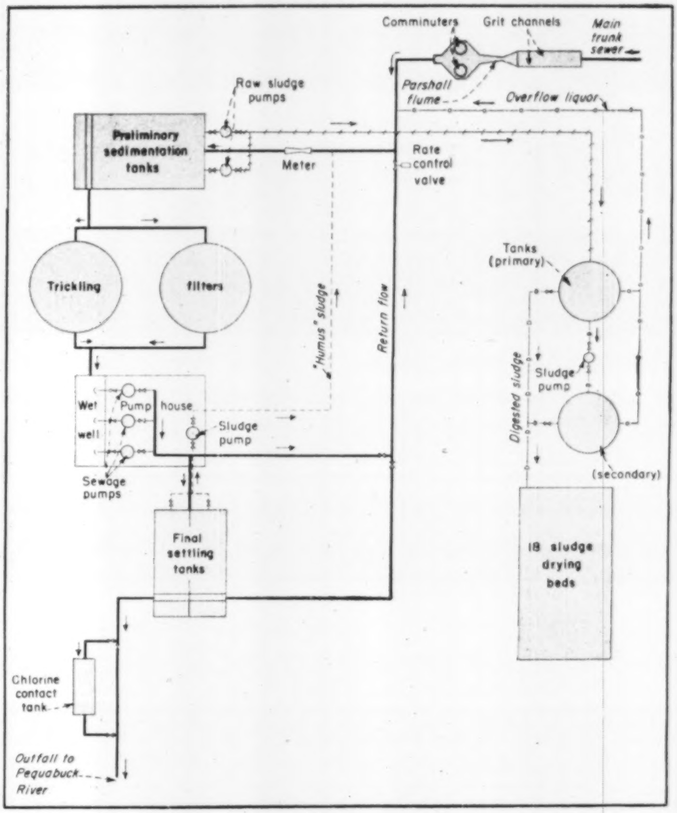

Comminuters
Grit channels
Main trunk sewer
Raw sludge pumps
Parshall flume
Overflow liquor
Preliminary sedimentation tanks
Meter
Rate control valve
Tanks (primary)
Trickling
filters
"Humus" sludge
Return flow
Digested sludge
Sludge pump
Wet well
Pump house
Sludge pump
Sewage pumps
(secondary)
Final settling tanks
18 sludge drying beds
Chlorine contact tank
Outfall to Pequabuck River

Fig. 1. MEASURED, GRIT-LESS AND COMMINUTED SEWAGE is treated by primary settling, trickling filtration and final settling. Effluent is chlorinated by solution-feed units. Digested and dried sludge is used for soil conditioning.

Two comminutors (Fig. 3) each have a capacity of 4 mgd. with a maximum head loss of 9 in. when totally submerged. Sewage solids are broken up by a comminution to permit passage through ¼-in. slot openings.

The bypass rack, which will be put into service during power failure or comminutor repair and maintenance, has a capacity of 8 mgd. Bar spacing is 1½ in.

Two primary settling tanks provide a 3-hr. detention period and overflow rate of 548 gpd. per square foot of surface area at average flow.

Sewage enters primary tanks over 32-ft. long weirs in each primary tank. Effluent is collected over two weirs set back 10.0 and 13.83 ft., respectively, from the end of the tanks.

Each primary tank is equipped with two longitudinal collectors and one transverse for sludge removal, the cross collector being located below tank inlets. Collectors are of conventional chain and wood-flight construction.

Scum is accumulated against baffles, 22 ft. from the effluent end of primary tanks, removed by a slotted, rotating pipe and discharged to the scum manhole (Fig. 4).

Sludge and scum are lifted from the primary settling units to the digestion tanks by two electric motor-

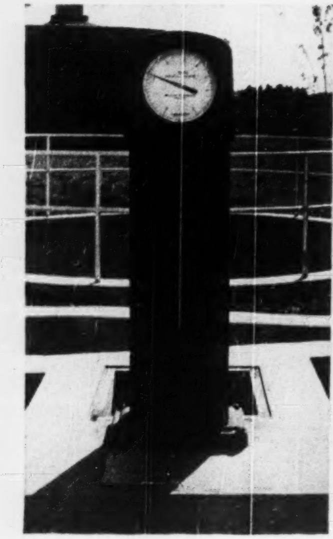


Fig. 2. **INCOMING SEWAGE** is measured at the Parshall flume by an indicator.

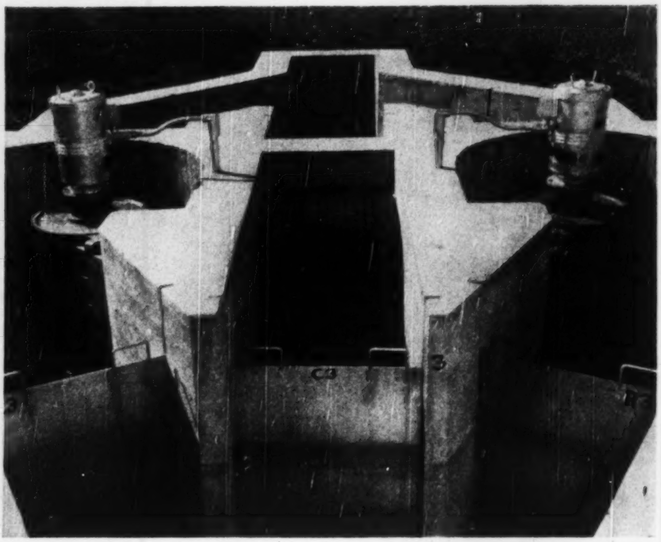


Fig. 3. **COMMINUTION** is by two electrically driven units with a bypass channel and trash rack in the center.

driven screw-propeller type pumps. These pumps are located in an operating gallery adjoining the primary units at the inlet end.

Settled sewage is applied to the two 92-ft. dia., high-rate trickling filters by four-arm revolving distributors. Each distributor is designed for a maximum flow of 4.0 mgd. with a total head at the center of 2.75 ft. above the surface of the stone.

Each filter contains a six-ft. depth of trap rock graded as follows:

Size of square sieve (in.)	Percent passing
3½	95
2¼	15
1¼	5

Filtered sewage is discharged to a wet well in the recirculation and low-lift pumping station, which houses three vertical sewage pumps. Two pumps driven by 20-hp. electric motors each have a capacity of 4 mgd. The third is an 8-mgd. unit driven by a 40-hp. gasoline engine through a right-angle gear.

Electric-driven pumps are actuated automatically by floats or by push-button control. The engine-driven unit is float controlled.

From the wet well, a portion of the

TABLE I—DESIGN AND ENGINEERING DATA FOR THE BRISTOL (CONN.) SEWAGE PLANT

Treatment: Grit removal; flow metering; comminution; primary settling; high-rate filtration; final settling; recirculation; chlorination; and sludge digestion and open-bed drying.

Capacity: 3.5 mgd. average; 8.0 mgd. maximum; 40,000 population to be served.

Sewage Characteristics: Largely domestic wastes. Suspended solid averages 270 ppm., and BOD. 230 ppm.

Grit Channels: Two parallel units; 1 fps. average velocity; 2.5 ft. water depth; 45-ft. long; 5- and 2-ft. top and bottom widths, designed to remove 100 percent grit retained on 65-mesh screen.

Flow Metering: Parshall flume—1.0 ft. throat width; 2.1-ft. max. head at 8 mgd.

Comminution: Two units in parallel; 8-mgd. max. capacity per unit.

Bypass: Bar rack with 1½-in. clear openings; 2.5 ft. channel width.

Primary Settling: Two tanks, two parallel channels: per tank; channels—100 ft. long, 16 ft. wide, 9.5-ft. average depth including 6 in. for sludge; 1.5-ft. freeboard; a total water capacity—58,500 cu. ft.; 3.0-hr. detention period at average flow; 6,400-sq. ft. net surface area; and loadings—548 gpd. per sq. ft. (average) and 1,250 gpd. (maximum).

Filtration: Two high-rate trickling filters each with 92-ft. diameter and 6-ft depth; 2,960 cu. yd. filter stone (total); 11.5 and 26.2 mgd. per acre loading at 3.5 and 8 mgd. flow; 5-day BOD. settled-sewage loadings—1.6 lb. per day per cu. yd. of filter stone and 0.35 lb. per day per sq. ft. of surface area.

Final Settling: Two tanks, with two channels per tank, each 16 ft. wide, 80 ft. long and 7.6-ft. water depth, 39,000-cu. ft. total capacity; 5,120 sq. ft. total surface area; 2 hr. detention at 3.5 mgd.; loadings 684 and 1,560 gpd. per sq. ft. at average and maximum flow, respectively.

Chlorination: Two manual-control, solution feed units; 400-lb. per day unit capacity.

Digestion: Two 50-ft. dia. tanks; 6-ft. inverted cone depths; 23.5-ft. sidewall water depths; 100,000 cu. ft. total capacity; unit capacity-2.5 cu. ft. per capita; one primary fixed roof tank; one secondary tank with 3-ft. rise floating cover and 4,650 cu. ft. maximum gas storage.

Sludge Drying: 18 open-sand beds of which twelve are 40x100 ft. and six are 20x100 ft.; 60,000 sq. ft. total area; unit area—1.5 sq. ft. per capita.

Cost: $820,774

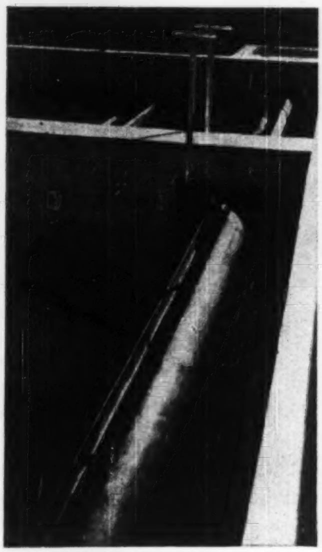


Fig. 4. **SCUM is removed from primary settling tanks by slotted-pipe troughs.**

filtered sewage may be returned to primary settling-tank influent or the entire flow may be pumped to final settling tanks.

Return flow automatically controlled

The rate at which filtered sewage is returned to raw sewage is controlled by a 16-in. hydraulically operated butterfly valve on the recirculation main. The action of this valve is governed by a mechanical flow-control unit located in the operating gallery, which maintains combined inflow to primary tanks at a constant rate. The desired rate of combined inflow is established by rotation of a knob on the flow-control unit.

Combined inflow to primary tanks is measured by a Venturi meter connected to a 4 to 11-mgd. indicator-transmitter in the operating gallery, the transmitter serving the flow-control unit. The Venturi is also connected to a registering, indicating and recording meter in the administration building and an indicator in the main pump house.

Filtered sewage enters final settling tanks over weirs and is distributed in the tanks by baffles. The two final tanks afford a two-hour detention period of 3.5-mgd. flow.

Effluent is collected over four weirs set back 10,13.33, 23.33 and 26.67 ft., respectively, from the end of final tanks. Total weir length is 268 ft. and average discharge is 546 gal. per hour per square foot of surface area.

Each final tank is equipped with two longitudinal and one cross chain and wood-flight collectors for sludge removal.

Collected sludge is pumped to primary-tank influent by a 300-gpm. horizontal, non-clog, centrifugal unit in the low-lift pump house.

Two sludge-digestion tanks have a total effective capacity of 100,000 cu. ft., equivalent to 2.5 cu. ft. per capita. Each tank is 50 ft. in diameter with a bottom cone, 6 ft. deep, and a 23.5 ft. sidewall water depth.

The primary digestion tank has a fixed roof and a system of scum-spray piping (ENR June 26, 1947, p. 1008).

The secondary or storage tank is equipped with a gasometer-type floating cover designed for a 3-ft. rise for gas storage.

Digested sludge will be dried on 24 open sand beds. Dried sludge will be used for fill and made available to the city and public as a soil conditioner.

The chlorination system is designed to provide a 12-ppm. dose to the 8-mgd. flow. This is done by two solution-feed units, each with a 400-lb. per day capacity.

Provision has been made to chlorinate sewage before primary settling as well as after final settling. Detention in the chlorine contact tank is about five minutes at maximum flow.

The 30-in. outlet conduit to Pequabuck River provides an additional contact time of about 17 minutes at maximum flow.

The administration building includes an office, laboratory, utility room, lunchroom, electrical-control room, locker room and toilets.

Contractors and engineers

The Bristol sewage disposal plant was built by the Westcott Construction Co., of North Attleboro, Mass., for a lump-sum bid of $820,774.

The project has been carried out under the direction of C. M. Pfennig, city engineer, with Metcalf & Eddy serving as consulting engineers for design and construction supervision. Clarence E. Carter was resident engineer during construction of the disposal plant.

Notes on Legal Decisions

Summaries of decisions relating to construction prepared by I. Vernon Werbin, counselor at law and engineer, New York, author of Legal Phrases of Construction Contracts (McGraw-Hill)

Damages recoverable by owner for breach of contract

In an action by the owner against a contractor for damages from alleged failure to remodel and repair a building in accordance with the contract, the damages assessed should be the difference between the cost of doing the work at the time of the breach and the contract price, plus such amount as would reasonably compensate the owner for loss of use or rents as a direct result of the breach.[1]

(1) Smith v. Gerhardt, 220 S.W. 2nd 85 (St. Louis Court of Appeals, April 19, 1949).

Materials destroyed by fire

Where a builder is to furnish the materials and labor for the performance of a contract for the erection of a building on the land of the owner, such materials remain the property of the builder until they are affixed to the land of the owner or have been delivered to and accepted by him as his property. Unless it can be shown that the contract was divisible and payment was due upon the delivery of the materials, the builder cannot recover the value of the same when the same has been destroyed by fire.

The mere fact that the contract provides that the materials are to be billed at list price and that labor was to be paid for at the union scale per hour does not establish a divisible contract.[1]

(1) Kopald Electric Co. v. Mandan Creamery & Produce Co., 37 N.W. 2nd 253 (Supreme Court of North Dakota, April 8, 1940).

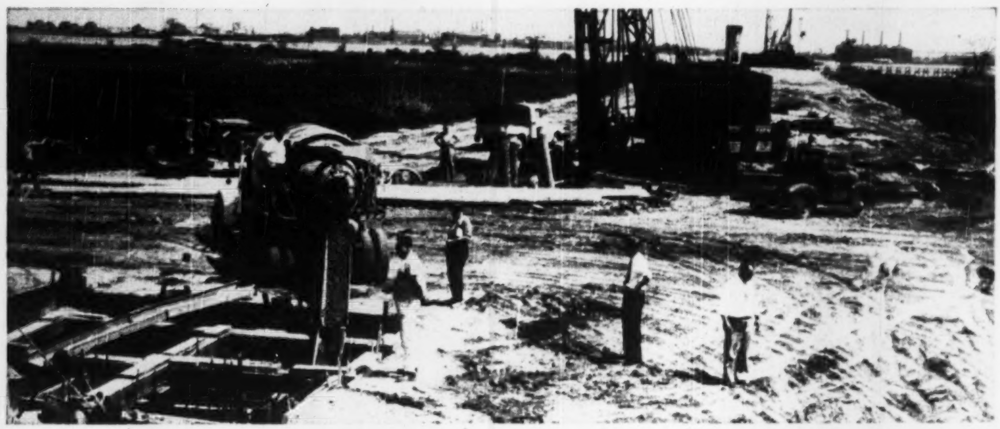
Delaying a subcontractor

Where the delay of the general contractor in ordering the subcontractor to commence the work caused delay in the subcontractor doing his part of the work, the general contractor had no right to declare a forfeiture of the subcontractor's contract. Under those circumstances, the general contractor had no right to hire another subcontractor to complete the work and charge the subcontractor with any increased costs resulting therefrom.[1]

It is a fundamental principle of law that where a party is the cause of the failure of performance, he cannot take advantage of his own wrongful act.[2]

(1) Nix v. Heald, 203 P. 2nd 847 (District Court of Appeals, Cal., March 21, 1949).
(2) Joseph Co. v. United States, 82 F. Supp. 345 (U. S. Court of Claims, Feb. 7, 1949).

Approaches to Delaware Memorial Bridge—



EARTHFILL BLANKET over tidal marsh gave contractor access to Delaware land approach piers, making job conditions similar to those on the New Jersey side. (Willard Stewart photo)

Crossing the Delaware from Delaware—Part III

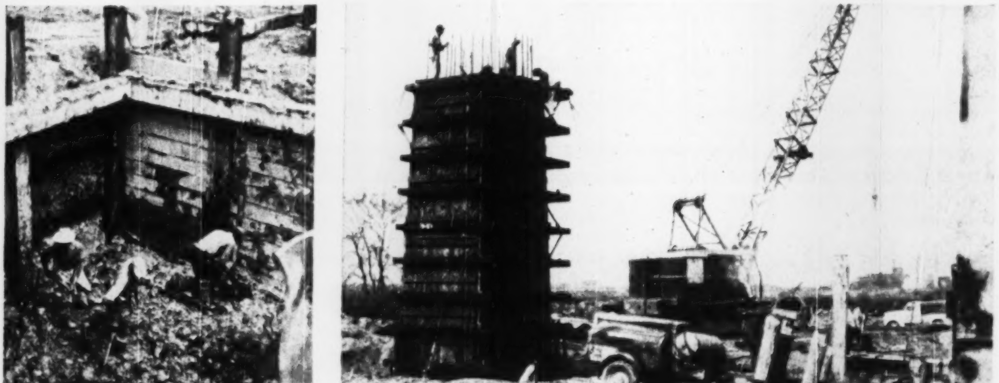
This is the third of a series on construction of the Delaware Memorial Bridge, across the Delaware River near Wilmington (ENR Jan 19, p. 36; ENR Jan 26, p. 28). The project, which is to include the world's sixth longest suspension structure (2,150-ft. main span), will eliminate a ferry-crossing bottleneck in a main Atlantic coastwise vehicular route. The fourth article, on the superstructure, will appear several months hence, after that work is well under way.

BOTH LAND APPROACHES to the Delaware Memorial Bridge rise uniformly on flat surfaces. Natural ground on the Delaware side is a tidal marsh; on the New Jersey side, partly alluvium and partly fill at El. +8 mlw.

For access to Delaware approach pier work, the tide-marsh location was blanketed with earth borrow, 100 ft. wide and 5 to 6 ft. deep, making construction conditions similar on both sides.

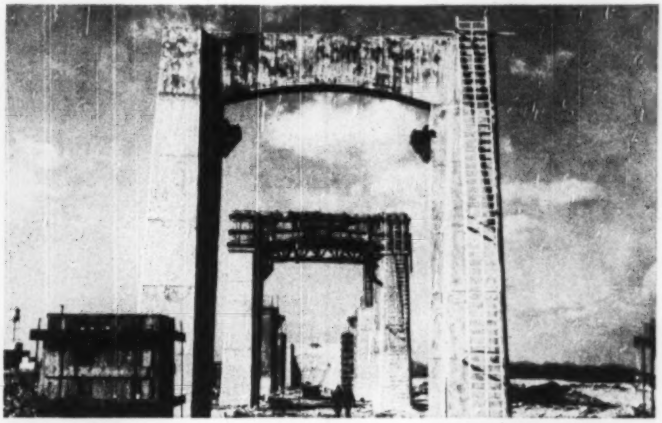
Piers were designed as twin shafts, independently supported by capped pile clusters and connected at the top by spandrels. Separate contracts were let for the Delaware and New Jersey land approaches. The former covered 20 piers and an abutment; the latter covered 15 piers and an abutment.

The real construction story lies in the entirely different methods the two contractors used to accomplish almost identical jobs.



DELAWARE PIER FOOTING excavations were protected by re-usable sheeting panels slipped behind soldier-pile flanges that were timber-braced. Pier shaft forms (right) were built for tallest use, then trimmed at base for successively shorter shafts. (ENR photos)

How Different Contractors Did Similar Jobs



COMPLETED PIER on the Delaware side showing temporary brackets on which steel-truss spandrel-form supports rode. Spandrel forms and support shown on second pier.

• SHEETED PITS were excavated for pier foundations on the Delaware side, and maximum-height forms, cut down to successively smaller sizes, were built for shafts.

When work began on a pit, a rectangular timber templet was laid in a shallow trench, and 20-ft. H-section soldier piles were driven outside at uniform spacing; templets later braced the pits. Next, the pit was excavated by clamshell and hand within an area extending to soldier-pile outer flanges. When excavation had gone down a few feet, 2-in. timber sheeting was inserted behind the soldier-pile inner flanges. The sheeting was lowered as excavation proceeded.

Sheeting was assembled in panels somewhat narrower than beam-to-beam-spacing and as deep as the pit (pits were about 10 ft. deep, going 6 in. below a uniform pile-cap bottom elevation of 0.0 mlw.). Each panel was held together by two steel bars, to which the boards were bolted. Holes at the bars' tops could be engaged by crane hooks, for handling.

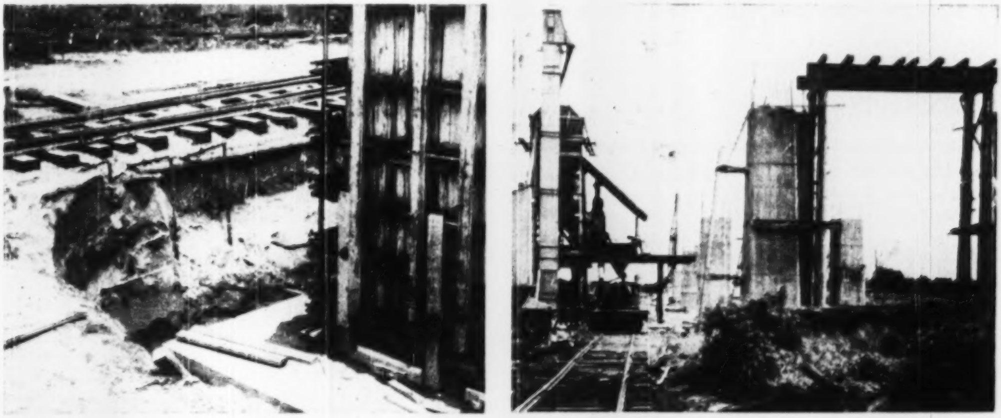
When bottom was reached, untreated timber piles were driven 35-70 ft. deep for 35-ton loading and cutoff at +2. A 6-in. layer of coarse gravel was placed in the bottom, and cap forms were built. The cap was reinforced just above cutoff level and poured 5 ft. deep.

Most of the pits went down without a hitch, but in a few, soldier piles tended to kick in. Where this threat occurred, a second ring of wale bracing was installed as far down as possible, considering the necessity to form caps inside the space. Soldier piles were re-used 10-20 times, as were the panels. Some pumping was necessary to keep the pits dry. Cap sizes varied from 15x15 to 24x24 ft., with piles ranging in number from 25 to 64.

Tapered shaft heights above caps ranged from 26.5 ft. to 63 ft. (a pier at the outer end, for transition from deck-girder to deck-truss superstructure, has vertical-sided shafts 80 ft. high.)

For shaft concrete, the Delaware-side contractor built two sets of forms, one set consisting of upper and lower units, for the tallest pier, and one single-unit set for the eighth highest. Because taper and top dimensions were uniform, a set of forms could be used at its greatest height, then trimmed at bottom for the next lower position, and so on.

The forms, one of which is illustrated, were made up of 3x6-in. vertical sheeting (S4S), and bolted to wale rings of steel WF pieces lap-bolted together at the corners. Wale spacing was 3 ft. 2 in. Form position-adjustment was obtained by give-and-take on hydraulic jacks and guys. Spandrel forms were supported by steel trusses



NEW JERSEY PIER footing excavations were dewatered by wellpoints, excavated by dragline. Form sections were built for 16-ft. concrete lifts. Concrete placement was by crane, which handled buckets from flat car. (ENR photos) set on temporary brackets attached to the shafts.

Concrete was supplied by truck mixers from a Wilmington commercial plant. Trucks fed directly into forms or into 1-yd. lay-down buckets for crane handling.

Contractor for the Delaware approach piers was Conduit & Foundation Corp., Philadelphia; John R. Sloan, project manager.

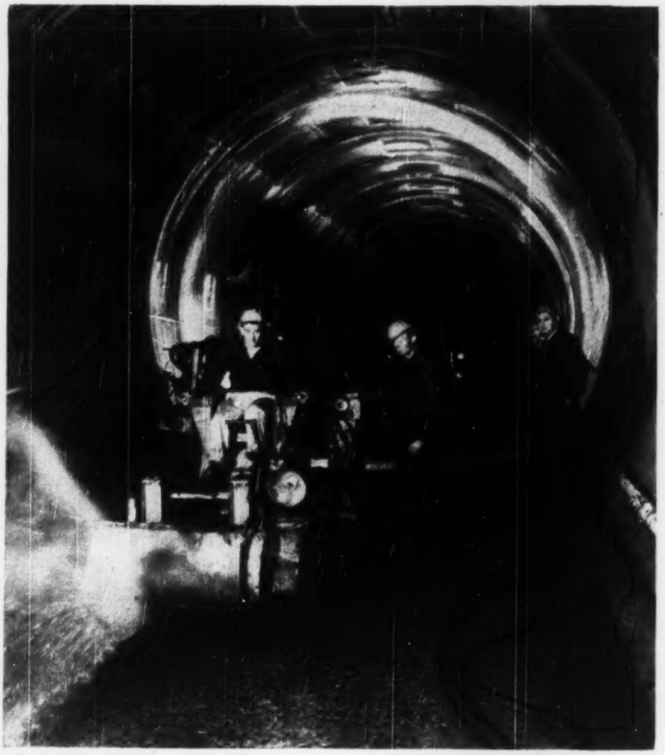
• WELLPOINTS dried the ground for excavation on the New Jersey side; tapered-shaft form sections were fixed in height at 16 ft., the bottom section being under-cut for successively shorter piers.

Operating on ground that was more stable than that on the Delaware side, the contractor set one wellpoint header along one side of most of the job, supplementing with another short header on the other side at five of the wetter pier sites. Wellpoint pumps were electric-powered. Pier pits then were excavated by dragline, the wellpoints keeping the hole dry while piles were driven and caps were formed. Before pile driving, 30-ft. holes were jetted; then piles were inserted and driven to full bearing, the jet being inserted beside the pile and kept operating to 30-ft. depth during driving.

• Pile lengths ranged from 49 to 60 ft. Shaft form sections, each accommodating a single pour, were 16 ft. high, twice the spacing of horizontal V-notch rustification on shaft faces. Sheeting was vertical 2x6-in. tongue-and-groove wood, held by light channel-pair wales at 2- to 3-ft. spacing, and tied internally with ¾-in. female-threaded form ties and lag screws. Position was maintained by a light truss between shaft pairs, and by guys. Spandrel forms were supported by light pole bents with steel beams on top.

Arrangements for concreting were entirely different from those in Delaware. A mixing plant served 1-yd. concrete buckets on flat cars that rode a standard-gage track outside one pier-shaft line. A crane handled the buckets. The plant contains two 28S mixers, one powered by gasoline and one by electricity. The railroad, which has an outside connection, has been purchased by the superstructure contractor for material-supply and erection purposes.

Contractor for the New Jersey approach was Lewis and Bowman, Inc., Norfolk, Va.; J. R. Lewis and L. L. Bowman, principals, handled work at the site. Both approach pier contracts will be completed in time to allow steel erection to proceed in February.



GRINDING INSTEAD OF PAVING—The 1- to 2-in. thickness of mortar necessary to smooth this tunnel's floor would have reduced its capacity. Owners chose to grind, and designed this machine for the job.

Tunnel Floor Ground Smooth

Some 10 ft. of head was added to Seattle City Light's Gorge Power Plant by grinding down irregularities in the floor of the 2-mi. pressure tunnel servicing the plant.

The tunnel, in continuous use since 1924, was dewatered to prepare it to carry a two-thirds increase in flow required by installation of a new 60,000-kw. generator.

Original plans called for placing mortar on the tunnel floor, to cover the aggregate uncovered by 25 years of water action. This mortar coating, to be safe from breaking loose, would have had to be 1 to 2 in. thick, and city engineers did not want to reduce the water-carrying capacity of the tunnel to that extent. Accordingly, it was decided to grind down the aggregate that projected as much as 1 in.

When grinding contractors said it couldn't be done, City Light designed and built a machine. Three more were later built for the Guy F. Atkinson Co., contractor on the work. Cost amounted to about $18,000 for the four machines.

The work was done in 45 days, at 200 to 300 lin. ft. of tunnel per day, covering a 15 ft. width of the invert.

Three machines carried eight 12-in. dia. wheels 3 in. thick on one arbor, giving a grinding face of 24 in. The fourth carried seven 20-in. dia. wheels 4 in. thick, giving a grinding face of 28 in. The grinding wheel arbor of the small machines was driven by a 40-hp. motor, that of the larger by a 75-hp. Grinding wheels of silicon carbide abrasive in the resinoid bond process were used. Actual grinding wheel speed was about 6,500 ft. per minute rim or surface speed. The wheels lasted about 18-30 hours each.

The grinding not only added about 10 ft. of head but also resulted in a considerable monetary saving, according to C. W. Cutler, Skagit project superintendent for Seattle City Light.

Light weight, low cost, low maintenance built into East's tallest steel tower

Gravity Footings, Galvanized Frame Featured in TV Tower 760 ft. High

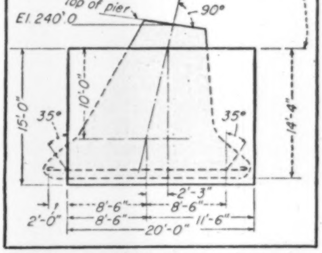
Light weight, low maintenance costs and resistance to hurricanes were the objectives of the engineers who designed Radio Station WOR's 760-ft television tower, located in North Bergen, N. J.

The structure's height makes it the tallest self-supporting steel tower in the United States. Its location, on the Hudson River Palisades, 240 ft high, combined with a 50-ft broadcasting mast on its top, gives its broadcast signals a height of more than 1000 ft over much of the surrounding territory. (Height is important in television because transmission distance is restricted by the earth's curvatures.)

Tower foundations are located at the corners of a 96-ft square. Total uplift due to a 90-mile wind (hurricane velocity) acting diagonally on the tower is 474,000 lb at a single footing. Horizontal shear is 150,000 lb.

In the foundation plans, it was proposed as a first alternative to key the footings into the site's hard rock, as shown by dotted lines in the drawing. This would transfer part of the uplift to surrounding material.

• Rock breaks badly—However, the rock broke badly in the first two cuts, forcing the builders to their second choice—gravity footings weighing 75 percent more than the uplift. The weight was obtained by adding pads, above the excavation, to the concrete within the irregular holes for the first two footings. On the second two, rock was excavated to 20x20x15-ft rectangular prisms, which could contain the required concrete weight.



TOWER FOOTINGS were designed to key into rock, on dotted line. Poor rock necessitated rectangular gravity type. Solid lines show gravity blocks for two of the four footings.

Foundation concrete was reinforced throughout, for transfer of uplift and shear stresses from the superstructure.

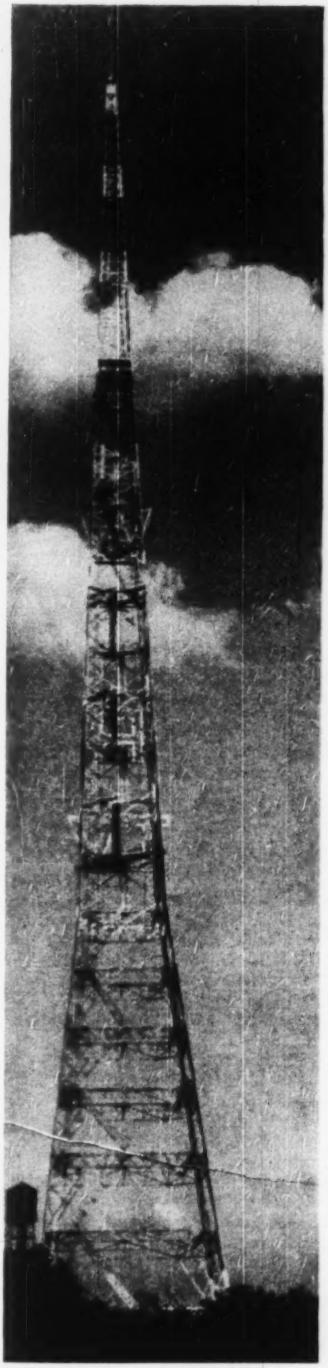
• Superstructure galvanized. Uplift exceeds the dead weight of the superstructure, which is 245,000 lb per footing (490 tons total). In order to achieve this relatively light superstructure weight, low minimum steel thicknesses were allowed: $\frac{1}{4}$ in. for tower legs and bracing, and $\frac{3}{16}$ in. for other members. Milled lengths were specified, where members were designed for end bearing.

To forestall rusting, which could quickly cut down the strength of the thinner members, hot-dipped galvanizing was specified for all steel. The galvanizing also will reduce the frequency of maintenance painting—paint required to make the tower visible to aircraft.

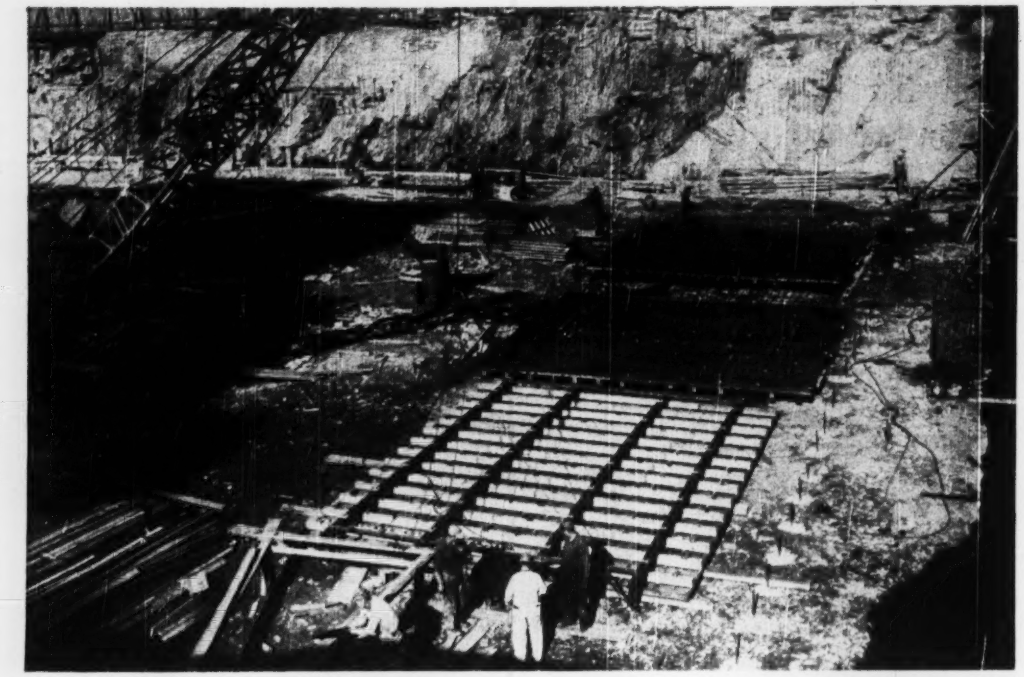
Steel erection took 5½ months. All connections were bolted, with rib bolts at leg splices and unfinished bolts with lock nuts at other points. Bolting was chosen in preference to welding or riveting as being less likely to injure the galvanizing on the steelwork. All bolts and nuts (10,000 of them) were also galvanized, the nuts were subsequently retapped.

Cost of the bare tower was $130,000. Further development of the property, including an equipment building on the ground, and equipment, on the tower, brought the project's total cost to approximately $360,000.

Contractors for the tower included: Mahoney-Troast Co., Passaic, N. J., general contract; Victor Celidonio, Inc., Fairview, N. J., excavation; Lehigh Structural Steel Co., New York, steel; Terry Steel Co., erection. Voorhees, Walker, Foley & Smith, New York, designed the structure for New York's WOR. Chief engineer for the radio station is J. R. Poppele.



MORE THAN 1,000 FT above nearby tidewater stands the mast-peak of this 760-ft self supporting television tower.



1 **Formwork for New York Union Bus Terminal foundation walls was assembled on the ground in 28-ft. high by 24-ft. long units. In this position, reinforcing steel for the walls was attached to the form units, and they were ready to be moved by cranes.**

Prefab Forms Erected and Stripped Fast

PRE-ASSEMBLED FORMS, with reinforcing steel attached, speeded the construction of foundation walls for the New York Union Bus Terminal.

Contractor Foss-Halloran-Narr, Inc., assembled 4 x 8-ft. panels, made of ¾-in. plywood and 2 x 4-in. framing, into units 28 ft. high by 24 ft. long. With these forms lying on the ground, ½-in. round, U-shape hangers were bolted on at 2-ft. intervals and 2-in. concrete cubes were placed on the oiled plywood face to hold the reinforcing steel.

Reinforcing for the interior face of the wall was tied to the hangers, then welded into rigid mats. Exterior-face reinforcing was welded and hung from the top of the form. Occasional ¾-in. bars were added to keep the steel from sagging.

A crane moved the forms, which weighed 14,600 lb., into position, with a sling attached to welded plates at the top of the steel-channel strongbacks. The point of attachment of the sling was fixed to be over the center of gravity of the unit with the reinforcing steel in place.

Designed to be used for casting against a perpendicular rock face where neither forms nor reinforcing steel could be supported conveniently, the units were set in place on concrete sills and braced with A-frames. The base of the frames rested on the sills and on 12 x 12-in. chocks 10 ft. away.

At first, the chocks were anchored with 1-in. round dowels about 4 ft. apart in the ground, but the decomposed mica schist in which they were placed was unable to resist the thrust at the base of the frames. Hence, 2-in. cold-rolled rods at 3-ft. centers were substituted, and these served successfully.

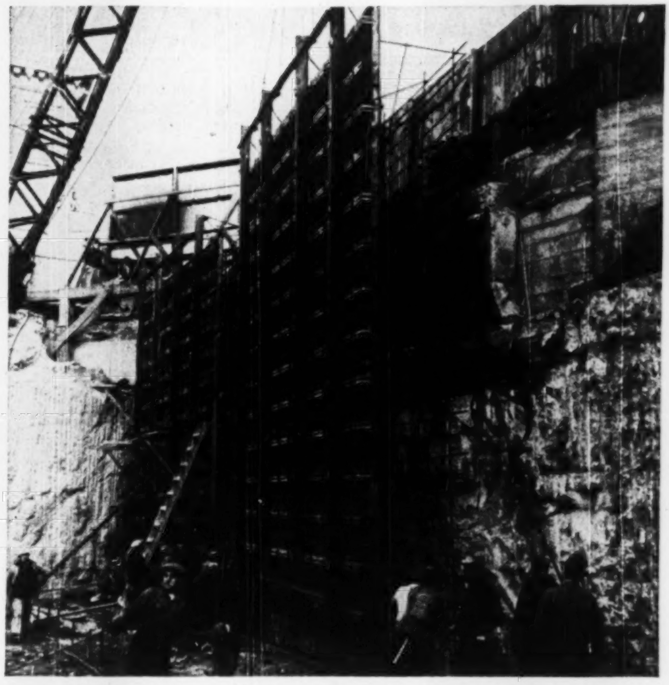
Concrete for the 15 and 16-in. thick wall, which was designed as a two-way slab, was cast at the rate of 4 ft. per hour. Average pour was 120 cu. yd. per day for the 100-ft. lengths placed each week.

Stripping of the forms was a simple operation, since as the crane lifted them, they swung away from the wall because the center of gravity of the units without the reinforcing steel shifted back of the points of support. Placed on the ground, the forms were equipped with a new system of reinforcing steel for the next stretch, and the cycle was repeated.

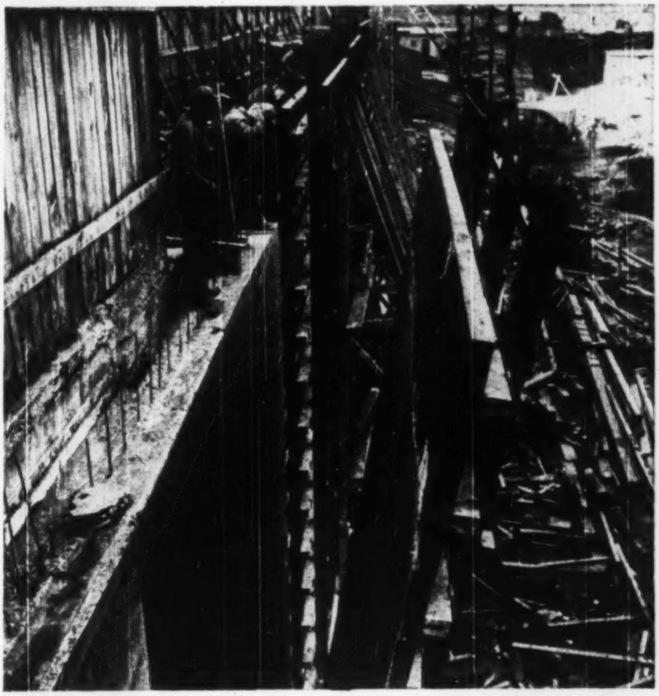
The New York Union Bus Terminal is being built for the Port of New York Authority in midtown Manhattan (ENR Dec. 1, p. 23). It will occupy the 800 x 200-ft. block from Eighth to Ninth Ave. between W. 40th and W. 41st St. The pre-assembled forms were used for the Eighth Ave. walls, 150 ft. on 40th St. and 200 ft. on 41st St.

Average height of rock above the excavation in these sections was 16 ft. Above the rock, forms had to be provided for the exterior face of the wall.

F. W. Narr was in charge for Foss-Halloran-Narr, contractor for the foundation walls. Jacob Feld, consulting engineer, designed the forms.



2 Units were set on concrete sills and braced with A frames. Concrete was cast in 4-ft. lifts, and then . . .



3 Panels were stripped, the forms swinging away from the wall as the crane raised them because of location of center of gravity.

How to Make Carbon-Slurry For Water Odor Control

Because dry activated carbon (fed into its water supply to eliminate odor) posed problems including the mess incident to handling the carbon in bags, the city of Chicago has turned its attention to injecting the carbon as a slurry.

John R. Baylis, Chicago's engineer of water purification, said the dry-feed machines originally placed in the South District filtration plant were ordered, despite anticipated trouble, during the war. "These machines gave plenty of operating trouble and would never feed the guaranteed maximum without frequent flooding with carbon," Mr. Baylis commented.

Finally, the engineering force, spearheaded by F. G. Gordon, assistant city engineer in charge of filtration design, began planning slurry storage and handling.

What finally resulted was a series of eight steel tanks, each 16 ft. in diameter and 18 ft. high (27,000 gal. capacity) installed under the railroad-spur track between the chemical building and low-lift pumping station. Carbon is shipped in bulk in hopper-dump railroad cars, dropped into the tanks below—a carload to a tank—and made into a slurry containing 1.25 lb. of carbon per gallon of water. The mixture is maintained with a 90-gpm. centrifugal pump with eductor inside the tank. Steel tanks are painted with bitumastic, and pumps and pipe lines rubber-lined. Carbon slurry is pumped to the main chemical-floor level with a pump of 50-gpm. capacity and then fed through controls to the water.

The city installed four-blade paddles (14.33-ft. dia.) near the bottom of the tanks, and two-blade panels at four other depths.

Before starting to unload, the tank is filled about one-half full of water, and dry carbon dumped on top.

It was found better not to agitate the material, because as soon as the carbon becomes wet, it sinks to the bottom of the tank. When all the carbon has settled—from 24 to 36 hours later—the tank is filled with water to the desired height.

Then agitators are started. A thick slurry forms at the bottom, and may prove so stiff that it does not mix readily with the water above. Addition of compressed air for a few minutes at the beginning of the agitation period loosens the material enough so that there is uniform mixture within about 30 minutes.

Slurry is then pumped from the tank through 6-in. pipe lines, with water being added to dilute the slurry so that it will not settle out.

BOOK REVIEWS

How to Get a Good School

Planning Rural Community School Buildings—By Frank W. Cyr and Henry H. Linn. 162 pp. Bureau of Publications, Teachers College, Columbia University, New York 27, N. Y. $3.75.

Few of the 100,000 local school districts in the U. S. build a new school house more often than once in a generation. Planning a building, therefore, is usually a new experience for the school board, the superintendent and the people of the community. This book was written primarily to help them. But it may also prove valuable to engineers and architects in their dealings with these people.

Divided into four parts, the book gives in detail in Part I the steps generally taken in planning a rural school. It points to the necessity of the community studying itself, determining its needs and laying out a program of education. It tells how an architect should be selected. And then, it goes on to cover briefly selection of a site, financing and many other phases of planning.

Characteristics of a good rural school building are defined in Part II. This section of the book also includes 66 illustrative floor plans of elementary, 12-grade and high schools, classrooms and special facilities, as well as site plans.

Considerations involved in making the buildings attractive are taken up briefly in Part III. In Part IV are suggestions as to whom and where the planners may go for assistance.

Engineering History

Die Geschichte der Bauingenieurkunst—By Hans Straub. 285 pp. Published by Verlag Birkhauser, Basel, Switzerland. Price 22.50 Fr. Obtainable through Stechart-Hafner Inc., 31 East 10th St., New York 3.

This "History of Construction Engineering" is written in scientific German but is so copiously illustrated with photographs and drawings as to be of considerable interest even to those who are unfamiliar with the German language.

Going back far into antiquity, the author begins by discussing the building of canals, roads, bridges, aqueducts, tombs, and monuments by the early Egyptians and other ancient races. He points out how the mathematics of Euclid and the physics of Archimedes helped the early engineers and builders. He described Roman and Grecian works, the remains of which still stand today. He touches on the Roman and Gothic arch systems of the Middle Ages. He tells of the rise of theoretical mechanics and statics in the Renaissance; of the genius of Leonardo da Vinci; of Galileo, the father of modern experimental science.

Then he alludes to the French and English scientists of the 17th Century, and he writes of the beginnings of research and knowledge of building materials and their strength and weaknesses—the development of theoretical mechanics and practical applications. And so on down to the industrial revolution, inventions and discoveries; the steam engine, the railroad; iron as a new building material; cement and reinforced concrete. Finally there is a discussion of present trends in building, and the influence of construction engineering on modern architecture.

In an interesting manner and with Teutonic thoroughness, the volume covers building engineering from the earliest civilized times to the George Washington Bridge.

Cutting Costs for Cities

Check List on How Cities Can Cut Costs—By Clarence H. Ridley and Orin F. Nolting, 52 pp. International City Managers' Assn., 1313 E. 60th St., Chicago 37, $1.00.

Compiled from suggestions by more than 50 municipal officials and specialists, this list contains 542 practical suggestions for constructive economy in local government. Each suggestion—stated as a question—indicates a generally accepted standard, method or procedure for reducing costs. Questions are arranged according to municipal activities to facilitate check-list use by department heads.

This check list points out where and how many operating procedures can be improved without sacrificing either quality or quantity of service.

Miscellaneous Notes on Booklets and Reprints

Important Design Features are presented in a 62-page booklet, "Interior Wiring Design for Commercial Buildings," published by the American Institute of Electrical Engineers, 33 W. 39th St., New York 18, N. Y. (80c. per copy). Basic elements of electric wiring, applicable to all types of commercial buildings, methods for estimating loads and cost data are included. This report may be useful to building designers and contractors, as well as to electrical engineers, as a check list of requirements for economy and safe operation.

An English Translation of "Technische Dynamik" by Biezeno and Grammel is in preparation. Anticipated dates are as follows: Vol. III, Turbines, end of 1950 or 1951; Vol. I, Mathematical Groundwork, June 1951; Vol. IV, Internal Combustion Engines, October 1951; Vol. II, Elementary Machine Parts, December 1951. Information concerning any of these volumes can be obtained from the Hafner Publishing Co., 31 East 10th St., New York 3.

New Engineering Books

Principles and Practices of Prestressed Concrete—By P. W. Abeles. 112 pp. Frederick Ungar Publishing Co., 105 E. 24th St., New York 10, N. Y. $3.75. (This is an American edition of a book published originally in England and reviewed in ENR Nov. 3, 1949, p. 39. Minor additions have been made such as a foreword by D .B. Steinman, a few footnotes and two appendices).

Applied Structural Design — By Thomas H. McKaig, 505 pp. Published by the author, 881 Main street, Buffalo 3, N. Y. $10.00.

Air Bubble Resorption—By Edward Silberman. Technical Paper No. 1, Series B. St. Anthony Falls Hydraulic Laboratory, Minneapolis, Minn.

Taschenbuch fur Bauingenieure—1949 Edition. By F. Schleicher. 1,942 pp. Springer Verlag, Berlin, Germany. Obtainable through Stechart-Hafner, Inc., 31 East 10th St., New York 3.

Reports and Pamphlets

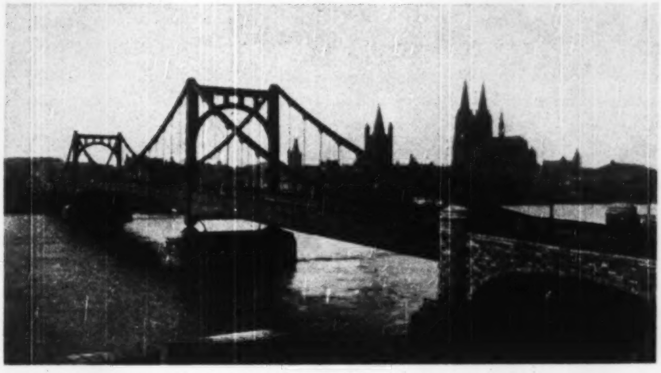
Why Federal Automotive Excise Taxes Should Be Repealed—National Highway Users Conference, National Press Bldg., Washington 4, D. C.

Conservation of Water Resources—Black River Regulating District, Watertown, N. Y.

Aerodynamic Theory of Bridge Oscillations—By D. B. Steinman. Reprinted from Proceedings of American Society of Civil Engineers, New York 18, N. Y.

The Twenty-Second Annual Highway Conference of the University of Colorado—Highway Series No. 22. University of Colorado, Boulder, Colo

DEVELOPMENTS ABROAD



The old suspension bridge at Cologne, destroyed in the war, . . .

is replaced by this new, 3-span, continuous hollow girder bridge.

Rhine self-anchored bridge replaced

The famous self-anchored suspension bridge over the Rhine at Cologne, Germany, (upon which America's first bridges of this type—at 5th, 7th and 9th Sts., Pittsburgh—were patterned) is now replaced by an equally notable three-span, continuous hollow girder bridge on the same foundations.

The old Cologne-Deutz bridge, built in 1915, was blown up by the Germans in their retreat across the river in 1945. The new bridge, the first of permanent character to be built across the Rhine since the war, contains a main girder span 606 ft. 10 in. long and only 10 ft. 10 in. deep at the center. These remarkable proportions are made possible by the continuity with the sidespans (434 ft. 9 in. and 407 ft. 2 in.), but more especially by the rigid hollow cell construction in which the top plate is also the bridge deck.

As now built and described in ENR Oct. 30, 1947, vol. p. 594, the bridge is four girders (three hollow cells) wide, supporting a 38-ft. roadway accommodating two lanes of traffic and two street car tracks.

Sidewalks 10 ft. wide are on brackets at either side. Provision is made to widen the bridge by the addition of two more lines of girders, so that it will be made up of five hollow cells. The total weight of steelwork in the new bridge is 5,760 tons. The bridge was designed by Fritz Leonhardt, consulting engineer, in collaboration with Gerd Lohmer, architect. The superstructure contractor was the Gutehoffaungschutte Co. (Photo of new bridge from *L'Ossature Metallique*, Brussels)

Loan to Help Ecuador

The Export-Import Bank has authorized credits for the Republic of Ecuador aggregating $7,000,000 to assist in financing the cost of United States materials, equipment, and services required for projects for the reconstruction of damage done by last summer's earthquake.

Of the total sum authorized, $1,500,000 will be for the financing of machinery and technical services which will be made available to a reorganized national highway maintenance department and used initially in the clearing of debris and the repair and reconstruction of roads damaged by the earthquake. When this task is completed the equipment and services will be utilized to put into effect a comprehensive program of highway maintenance under the system and methods employed in the U. S.

An additional $1,500,000 is allocated to the financing of railroad equipment, principally locomotives and track essential to the handling of increased traffic into the earthquake-affected area. New business will result from the movement of large supplies of building materials and equipment for the reconstruction effort.

The remaining $4,000,000 will be allocated to specific projects submitted by Ecuador and agreed upon by the bank and the Ecuadoran government.

Turkish port contract

The Koppers Company, of Pittsburgh, Pa., said last week it had been awarded a contract for supervision of engineering and construction work on the new $50,000,000 port of Zonguldak, on Turkey's Black Sea coast.

Koppers officials recently signed a contract with E.K.I.—Turkish government mining monopoly—covering construction of new docks and a large breakwater at Zonguldak; improvement of mining facilities in the area, including new tipples and two coal preparation plants, and construction of about eight miles of railroad trackage. The Pittsburgh concern will appoint a director of projects to oversee the work, and a seven-man staff (including five civil engineers).

Icelandic highways

The roads of Iceland except for seven miles of tarmac and concrete roads near Reykjavik, are of dirt or gravel composition. During the summer nearly all roads are passable, but in winter many are blocked with snow. Several new sections of roads were built in various parts of the country last year. Fifteen new small bridges were constructed. There are 11,023 motor vehicles in Iceland, of which 4,459 are trucks, 6,061 passenger cars and 503 motorcycles. There is much travel and cargo movement by sea as nearly all of the towns are on the coast. Since the war, Iceland has been increasingly air-minded. Both domestic and international aviation there underwent great expansion in 1948. Iceland's population is now about 140,000.

(*Continued from page* 47)

International Trade Fair

With full European participation practically assured, through action of the 16 Marshall Plan nations belonging to the Office of European Economic Cooperation, it is expected that about 75,000 buyers of consumer and industrial goods will attend the U. S. International Trade Fair at Chicago, Aug. 7-19 next.

Interest by foreign countries in the fair is increasing, with most overseas inquiries coming from Great Britain, Belgium, India, Netherlands, Czechoslovakia, Sweden and Norway. Paul G. Hoffman, ECA Administrator, has estimated that the United States can import $2,500,000,000 worth of foreign commodities without adverse effect on American production. Dollar credits of this amount for foreign countries will allow for a greatly increased export of U. S. products which are needed in great quantities abroad.

Mexican Sports Center

The Mexican government has approved the construction of a $1,250,000 sports center at Ciudad Juarez on the Texas border near El Paso.

The center, which will contain a stadium, baseball park, open air theater and swimming pool, will be located on Cordoba Island in the Rio Bravo. The government has ceded the 600-acre site, while Ciudad Juarez will provide funds for construction costs.

Transport

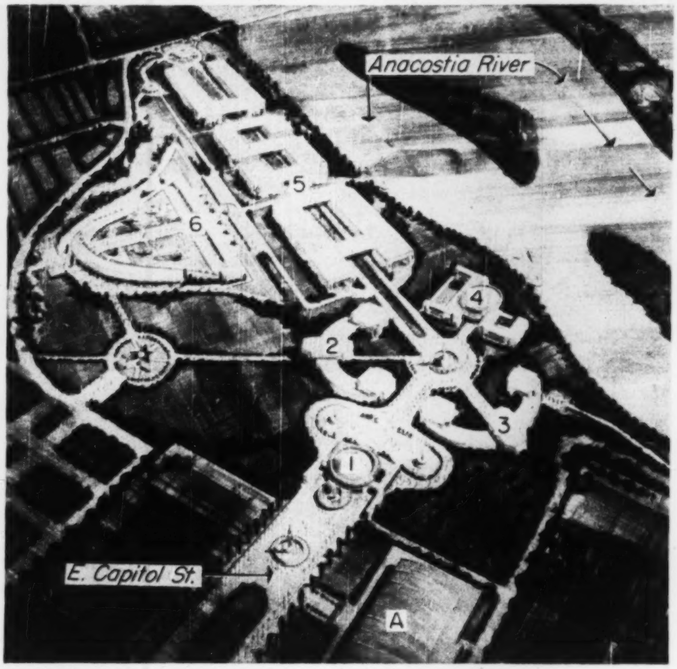
Mexico—The Mexican Secretary of the Navy is making a detailed study of the possibility of extending the New Orleans, La., to Brownsville, Tex., ship canal further south to the Mexican port of Vera Cruz. River craft can now travel from the Twin Cities in Minnesota to New Orleans, Houston and Brownsville. The canal borders the Gulf of Mexico but is protected from the open sea.

Mexico is exporting constantly increasing amounts of cotton, petroleum products, pineapples and hemp that could use such a 500-mile canal economically. As to imports, Mexico by this means could transport automobiles, heavy machinery, and consumer goods at decreased cost. The Mexican government may authorize a mixed U. S.-Mexico corporation to build and exploit such a canal.

◆

An Old Custom—Hearings on whether to build Massachusetts' first toll road in a century will be held this week by the Massachusetts legislature. Proposal is for a superhighway to link Connecticut's Merritt Parkway and Bay State's Newburyport Turnpike.

MUNICIPAL AFFAIRS



FREEDOM FAIR EXPOSITION—The District of Columbia will celebrate its sesqui-centennial this year by staging a $17,900,000 exposition to commemorate the 150th anniversary of the establishment of the seat of the federal government in the district. The site selected is known as Anacostia Park, where East Capitol Street runs to the Anacostia River. Approximately $15,000,000 will be spent on construction and ground improvements, including the construction of a Federal Building and Hall of States, Industry-Labor Group (three buildings in the form of the letters U. S. A.), Pan American Center, United Nations Building, Recreation area, and a Memorial Amphitheater in Rock Creek Park. The National Capital Sesqui-centennial Commission plans to inaugurate its program on April 15—the anniversary of the laying of the first boundary stone of the District of Columbia in 1791. The formal opening of the exposition will be on July 4. The first year of the fair will terminate Nov. 22, but the exposition will be reopened in 1951 from April 15 to Nov. 22. All the buildings will be of temporary construction, except the amphitheater. The Byrne Organization, Washington, is the architect. Bids for the amphitheater will be opened and negotiated contracts for the other structures will be awarded soon. Features in the sketch above are: 1. Freedom House; 2. United Nations Building; 3. Hall of States and Federal Exhibit Building; 4. Pan American Center; 5. Industry-Labor Group; 6. Amusement Area; and A. The Armory.

Parking, the No. 1 Municipal Headache

Many observers believe that automobile parking is the biggest municipal headache today. The Tennessee State Planning Commission has been making a study of this subject and has come up with the conclusion that if local officials could start off again from scratch, building an entirely new city in accordance with the needs of today, they might succeed in solving their difficulties far more easily.

Unfortunately, most city administrators have inherited a physical plant constructed in horse and buggy days when a few hitching posts and a street wide enough to permit four horses to pass abreast were all that was needed.

Because one-way streets and parking meters have not yet provided the complete answer to this problem, more and more cities are turning to the parking lot as a solution, but that has problems too. Following are a few

(*Continued on page* 50)

ARE YOU LOSING AN ADEQUATE WATER SUPPLY THROUGH NEEDLESS WASTE?

WRITE FOR THIS PORTFOLIO
OF EDUCATIONAL AIDS

REPRINTS OF PRIZE-WINNING ESSAYS
on the advantages of 100 metering

PUBLICITY STORIES
on meters and the advantages of metering for release to local newspapers

HOW WATER SUPPLY IS WASTED

WATER WASTE POST CARDS
Illustrated to show how water is wasted through leaks. Cuts available.

METERING CASE HISTORIES

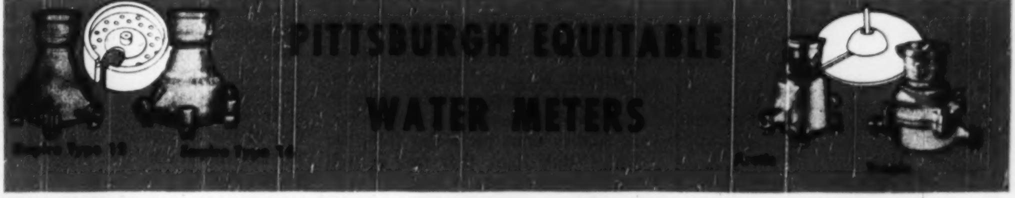
CASE HISTORIES
of actual "before and after" metering experiences in municipalities of varying size

TO CONSERVE WATER...
METER ALL SERVICES

The nationwide water shortage has been widely publicized. Never before are so many people water-conscious. If your system is not 100 per cent metered you know that much water is being wasted. Now is the time to advocate metering to your consumers and municipal officials. You'll do yourself and the community a service. To help you "sell" this idea we have prepared a complete portfolio of factual data on how a community is benefited by metering all services. Write for it today—no obligation involved.

Pittsburgh Equitable Meter Division
ROCKWELL MANUFACTURING CO.
Pittsburgh 8, Pa.

Atlanta Boston Chicago Columbus Houston
Kansas City Los Angeles New York
Pittsburgh San Francisco Seattle Tulsa



PITTSBURGH EQUITABLE WATER METERS

Business methods that make home building more profitable

YOU'LL save yourself many a headache and many a dollar if you let this new book be your guide. Designed specifically to meet the needs of the small home builder, it gives you the business "know-how" needed to make a profit with minimum risk to your money . . . a practical understanding of economic factors that determine if there is a market for your product . . . and the benefit of production knowledge based upon the experience of other builders. Here are practical, usable facts, not theory. Reflecting the experience of experts in the field, it tells you, in simple terms, all you need to know about the *business* of home building, showing you how to *minimize business errors* and increase your chances for success.

Edited by B. KENNETH JOHNSTONE, Carnegie Institute of Technology, and CHARLES E. JOERN, Wm. Joern & Sons, Realtor and Builder. Contributed to by a group of 12 authorities in the field.

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A MANUAL FOR CONTRACTORS

289 pages, 5½ x 8, illustrated, $4.00

IN step-by-step fashion, this book discusses the value, purchase and development of land—the requirements and sources of working capital—and the financial problems associated with the production and purchase of houses. It points out a number of common legal pitfalls, shows you how to avoid them, discusses the ways of achieving financial security, etc. The *small* builder—the man whose ambition and aggressiveness have led him to make the jump from skilled craftsman to builder—will find this information on the *business* side of home building a practical supplement to his knowledge of the *craft*.

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- adopt a time schedule
- figure a job budget
- estimate operating costs
- set up an accounting system
- sell the finished building
- etc., etc.

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(Continued from page 48)

of those problems and the attempts that are being made to solve them.

Parking Ramp—The recently-organized Mid-Town Businessmen's Committee of Buffalo, N. Y., has mapped plans for erection of a parking ramp over the downtown Washington Market to alleviate traffic congestion. The business men are calling for the appointment of a committee to approach city officials and other groups on the proposal. The members favor erection of a ramp over the market to accommodate about 2,000 cars.

Parking Authority—Members of the new city parking authority of Philadelphia, Pa., have been named by Mayor Samuel and confirmed by city council. Named for terms of one to five years are: Francis J. Chesterman, former president of the Bell Telephone Co.; Rear Admiral Robert L. Porter, retired; Robert C. White; Councilman George Maxman and James H. McHale. The appointments are effective June 1, the proposed date of setting up the authority, which will be empowered to issue bonds, select sites and lease garages to private operators.

Parking Garages—Advantages of open-walled concrete parking garages, according to the Portland Cement Association, include these: They create several parking spaces for each one in a parking lot, at less cost per car; they promote trade and good will for stores, restaurants, theaters, banks and other businesses whose customers otherwise might be driven away by lack of parking facilities; and they take parking off the street and thus reduce traffic congestion and accidents.

Parking Lot Regulation—A survey by the Eno Foundation shows that at least 59 cities of over 10,000 population now have ordinances to license or control parking lots. To prevent poor layouts, unsuitable surfacing and interference with sidewalk and street traffic, 34 cities set forth regulations on such matters. The requirement most often found in ordinances is that a barrier be provided between the parking lot and adjoining properties.

Fringe Parking Unpopular—According to the American Public Works Association, parking lots away from the business centers of cities are not successful. Cities reported as abandoning fringe parking lots in recent years include Denver, Colo.; Pittsburgh, Pa.; Atlanta, Ga.; Richmond, Va.; Washington, D. C.; Grand Rapids, Mich.; Paterson, N. J., and Hartford, Conn. It seems that shoppers with bundles to carry prefer parking closer to the store, or if they must use a bus from the fringe, they think they may as well make the whole trip by bus.

Annexation doubles size of Houston, Tex.

Recent annexation by Houston, Tex., of 79 sq. mi. of unincorporated neighboring territory doubled the area of the city, added more than 100,000 to its population, and $2,000,000 in property valuations to its tax roll. More than 35,000 homes are in the newly-annexed area, and the city had to add 50 men and 15 trucks to provide garbage service there. Voluntary fire units will be supplemented with regular city equipment.

An estimated 650 miles of roads became city streets overnight. Operation of water systems in nine water improvement districts will be taken over by the city on March 1. Present sewage systems will be extended. Operation of 11 sewage treatment plants has already been taken over, according to the Public Administration Clearing House.

Municipal Briefs

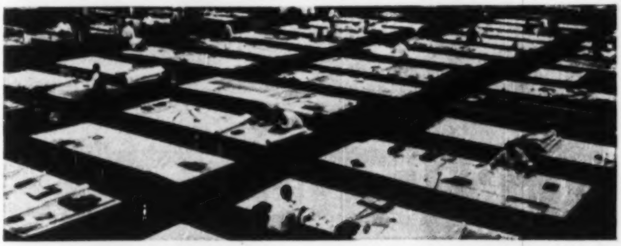
Municipal Center—The first step towards the proposed multi-million-dollar municipal center and city hall for New Orleans, La., has been taken with the appointment of Frederick D. Parham and H. Mortimer Favrot as architects. Mr. Parham was chairman of the city planning and zoning commission from 1946 to 1948, a member of the commission for 14 years, and is in the firm of Goldstein, Parham and Labouisse. Mr. Favrot is a member of Favrot, Reed, Mathes and Bergman, architects, who designed the Veterans Hospital, the Baptist Hospital and other prominent structures.

Waterfront Improvements—To cooperate with city officials in promoting harbor and waterfront development in Buffalo, N. Y., Waterfront Industries is being organized by Edward P. Jackson. It is planned to call a meeting of representatives of waterfront industries to pledge assistance to legislative and administrative bodies seeking harbor improvements.

Apartment Supplants Houses—More than 46,000 sq. ft. occupied by eleven old residential buildings on Washington Square, New York City, will be used by Samuel Rudin, builder, for immediate development with an apartment house of unusual design to accommodate 300 families. Architects Emery Roth & Sons expect to catch some of the colonial spirit of the old neighborhood. Only 60 percent of the space will be used for the buildings. One of the features will be a group of studios with north light skylights for the use of artists and sculptors.

A $75,000 per year saving in the making . . .

Streaming off this continuous processing machine at the Ford Motor Company . . . are Kodagraph Autopositive prints—positive photographic intermediates of original drawings. *The answer to a $75,000 per year redrafting headache!*



Before . . . Ford's valuable original drawings had a short life . . . had to do double duty in the drafting room and in heavy print production. In the latter operation, they were exposed to machine wear and tear, constant handling. Soon they lost their detail . . . produced illegible blueprints . . . which meant that new drawings had to be ordered from the drafting room.

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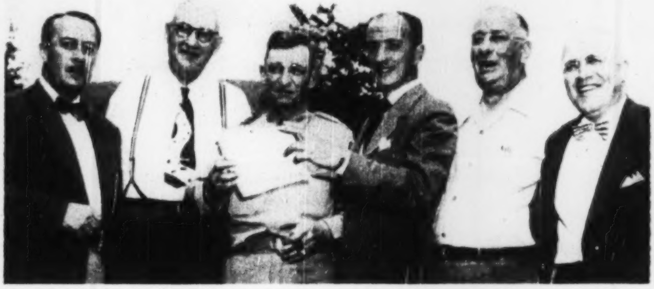
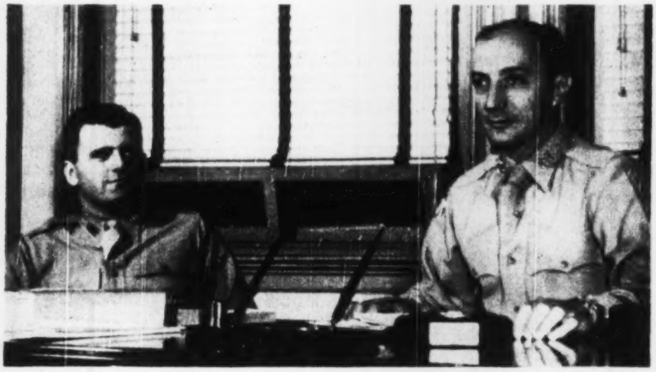
MEN AND JOBS

M. Hirschthal, widely known expert on concrete design and construction, retired Dec. 31, as concrete engineer for the Delaware, Lackawanna & Western R.R. to open a consulting office at 420 Madison Ave., New York City. Mr. Hirschthal had completed 42 years of service with the railroad, 29 of them in his last position. Among his many contributions to reinforced concrete design was the adaptation of the flat slab to railroad loadings. He also played a prominent part in the design of the railroad's famous Tunkhannock Viaduct in the state of Pennsylvania.

Milton A. Karp has been appointed chief engineer of the Luria Engineering Corp. of New York City, designers and fabricators of standard steel-frame industrial, commercial and airport buildings. He will be at the Bethlehem, Pa., plant, while Peter A. Strobel, vice-president in charge of engineering, will remain at the New York City executive headquarters of the company.



Pictured above are Horace S. Evans, executive director of New York State Flood Control Commission; William M. Stewart, Canisteo, Steuben County assemblyman; Brig. General G. J. Nold, division engineer, North Atlantic Division, Corps of Engineers; Lt. Col. A. C. Welling, district engineer, Baltimore District, Corps of Engineers; Mayor Ernest Stewart of Hornell, and J. Burch McMorran, chief engineer of the New York State Department of Public Works. They participated in the ceremonies whereby the Corps of Engineers accepted the Almond Dam Flood Control structure located about two miles west of Hornell, N. Y., on the Canacadea Creek, tributary of the Susquehanna River.



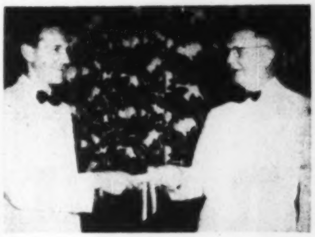
Shown above are Lt. Col. A. C. Welling, district engineer of the Baltimore District, Corps of Engineers, and his executive officer, Capt. M. E. Steinbring. Colonel Welling has been district engineer since 1948, and during 1949 guided the district through its biggest year, measured in dollars of work accomplished, in the peace-time history of the district, which is now principally engaged in the construction of Veterans Administration Hospitals at Wilkes-Barre, Pa., and Baltimore, Md.; in the construction and maintenance of flood control projects within the Susquehanna River water-shed extending from the southern tier of New York State to Chesapeake Bay, and in the construction and maintenance of river and harbor works within the Chesapeake Bay area.

Raymond W. Stuck, who was chief of the engineering division of the civil works division of the Office of the Chief of Engineers since August, 1946, is now chief engineer of the Hanford Works of the Atomic Energy Commission at Richland, Wash. During the war he was chief of the engineering division of the South Atlantic Division. Under his direction the engineering work on many of the multimillion dollars of civil works projects now under construction were satisfactorily handled.

Milo A. Rubek, County engineer of Audubon County, Iowa, has moved to Mount Ayr, to become Ringgold County engineer. Previously he was county engineer for Jones County.

Richard M. Dailey, former soil conservation drainage engineer at Elizabeth City, N. C., has joined the Soil Conservation Department at Goldsboro, N. C., as drainage for the southeastern section of North Carolina. A civil engineering graduate of the University of North Carolina, he is serving as consulting engineer for several conservation districts.

Col. E. P. Ketchum has become district engineer of the New York district Corps of Engineers, succeeding Lt. Col. Paul D. Troxler, who has been acting district engineer since the retirement of Brig. Gen. W. W. Wanamaker last fall. Colonel Ketchum during the first world war served in France with the 2nd, 5th and 26th divisions. He organized the first Engineer ROTC unit at Virginia Polytechnic Institute in 1919. He worked on Muscle Shoals construction, 1923-26. In 1942 he was on the Pan-American Highway work in Central America. In 1944 he was deputy post commander of the 51st Major Port in England—the Bristol Channel ports. He was commander of the Antwerp area in 1945.



Charles S. Whitney, representing the firm of Ammann & Whitney, consulting engineers of New York and Milwaukee, recently received the first annual award of the Concrete Reinforcing Steel Institute "in recognition of a noteworthy contribution to the advancement of reinforced concrete construction"—a paper entitled "Thin Shell Concrete Structures." Presentation took place at the 25th anniversary meeting of the Institute, at White Sulphur Springs, West Va.

Lee Meara, with U. S. Engineers at Zanesville, Ohio, during the construction of the Muskingum Valley flood control dams, has been named civilian head of research and standards in the general engineering branch of the Air Corps, with offices in the Pentagon at Washington.

Lewis E. Arnold, engineer administrator with the Los Angeles city engineer's office and the man picked by the city council to fill a newly-created $15,000-a-year post of Director of Public Works, has turned down the job offer, advising the city council that he could not consider the position because it was too insecure, not yet having been established by a charter amendment. The post was voted by the council to give the Department of Public Works an executive head when the five-man Board of Public Works is recessed.

R. L. Chass has been promoted to assistant director of the Los Angeles County, Calif., Air Pollution district. Former chief inspector of the district, he stood first on competitive examinations to fill the post vacated last July when Gordon P. Larson succeeded Louis C. McCabe as director. He is a graduate of Carnegie Institute of Technology, and has been in air pollution research for eight years.

Donald B. Clement has been appointed assistant chief, Division of Cadastral Engineering, Bureau of Land Management in the Department of the Interior, succeeding **Earl G. Harrington,** now division chief. Clement has been in the cadastral engineering field for 38 years.

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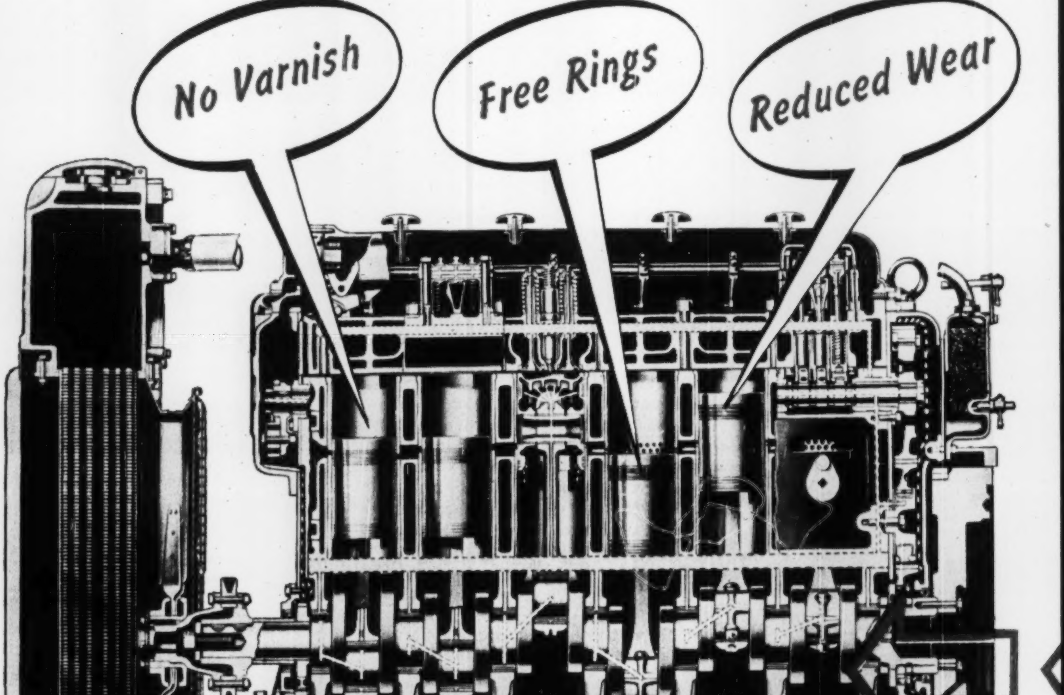
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EDUCATION and RESEARCH

James H. McGraw Award

The James H. McGraw Award in technical institute education will be presented for the first time at the Seattle, Wash., meeting of the American Society for Engineering Education next June, at the University of Washington.

The award, consisting of an annual prize of $500 in cash and an appropriately engraved certificate, is sponsored by the McGraw-Hill Book Co. in memory of James H. McGraw, Sr., founder of the company, and it is given to recognize and encourage outstanding contributions to technical institute education in the United States.

Thorndike Saville, dean of engineering at New York University and president of the American Society for Engineering Education, has appointed the award committee for 1950, as follows:

E. E. Booher, vice-president of the book company; T. J. Faig, president, Ohio Mechanics Institute; C. J. Freund, dean, University of Detroit; K. L. Holderman, professor, Pennsylvania State College; L. V. Johnson, director, Southern Technical Institute; C. S. Jones, president, Academy of Aeronautics; and H. P. Rodes, University of California, who will act as chairman.

Ex-officio are Prof. H. P. Adams, chairman of A.S.E.E.'s technical institute division, and Dean Saville.

Contributions usually will have to do with teaching, publication, or administration. Nomination forms may be obtained from the committee or from Secretary A. B. Brownell, Northwestern University, Evanston, Ill. Nominations, which may be made by anybody other than members of the committee or employes of the McGraw-Hill Book or Publishing companies, must be mailed or delivered by March 15, 1950, to Chairman H. P. Rodes, 130 Administration Bldg., University of California, Los Angeles 24, Calif.

Fukui University needs engineering books

A letter from Prof. Shizuka Saito, chief librarian and councilor of Fukui University engineering college, Fukui, Japan, says that on account of war, earthquake, and flood—disasters which came in quick succession—the college has lost its entire library which once had encompassed 150,000 volumes.

Prof. Saito says, "Our ideal and aspiration is to build up a new cultural country based on true democracy and to contribute something, if we can, to the advancement of the civilization and welfare of the world." He is asking contributions of books and scientific magazines from American engineers to help rebuild the library of the college.

Structural Clay Research

Robert B. Taylor, of Newark, Ohio, has just been appointed research director for the Structural Clay Products Research Foundation. He will head an industry-wide, long-range research program in the brick and tile industry from his headquarters which are maintained at 1520 18th Street, N.W., Washington, D. C.

The $1,250,000 research program will attempt to find methods of reducing the cost and improving the quality of structures made with clay products. Mr. Taylor will plan his program from a list of recommendations for research in the industry prepared by the industrial research firm of Arthur D. Little, Inc., Cambridge, Mass.

Robert B. Taylor

These recommendations include: Developing products designed for specific construction uses; an industrial engineering study of bricklaying techniques; enlarging the fundamental knowledge of clay; devising new methods and uses for clay products, including new methods of joining clay products with other building materials; promotion of the development of lightweight clay units, larger sizes, special shapes, and better dimensional control of products; and a broad investigation of all possible applications of clay, extending beyond conventional architectural applications.

Demonstrating the great interest of this industry in research; also, was the naming of Charles E. Feltner, of Raleigh, N. C., as research director of Clay Products Research, Inc., of Raleigh, N. C., and Atlanta, Ga.

The regional project will be conducted through the N. C. State College Department of Engineering Research and under a contractural agreement with Clay Products Institute, Inc.

Educational Notes

Student Highway work—Engineering students at the University of Kentucky, Frankfort, will help draw plans for state bridges and highways. James E. Black of the highway department will direct the students. This part time work will help train the men for full-time work in bridge and road designing should they seek highway department employment after graduation.

Foreign Students—Included in the undergraduate student body of Stevens Institute of Technology, Hoboken, N. J., totaling 1,300 this year, are 23 young men from these 16 foreign countries—Argentina, Belgium, Czechoslovakia, China, Colombia, Cuba, Ecuador, Egypt, Great Britain, Greece, Iceland, Iran, Netherlands, Surinam, Turkey, and Venezuela.

Reclamation Jobs—The Bureau of Reclamation is offering an opportunity to student engineers for a professional career in the government service. Examinations are to be held next month for probational engineering appointments in 17 western states. Starting salaries are $3,100 and $3,825, and about 200 such appointments will be made. Applications should be made at once for the examinations to be conducted throughout the country by the U. S. Civil Service Commission. Blanks may be obtained at 1st or 2nd class post offices, regional offices of the commission, or the Bureau of Reclamation, Washington, D. C., or Denver, Colo.

Engineering Center—Alumni of the school of engineering, Columbia University, are currently endeavoring to raise $800,000 to complete the purchase of property at West 125th St., and Riverside Drive, New York City, as the first step in a long-range program to build a new engineering center. Faculty and undergraduates are also helping in this fund-raising effort for the new building.

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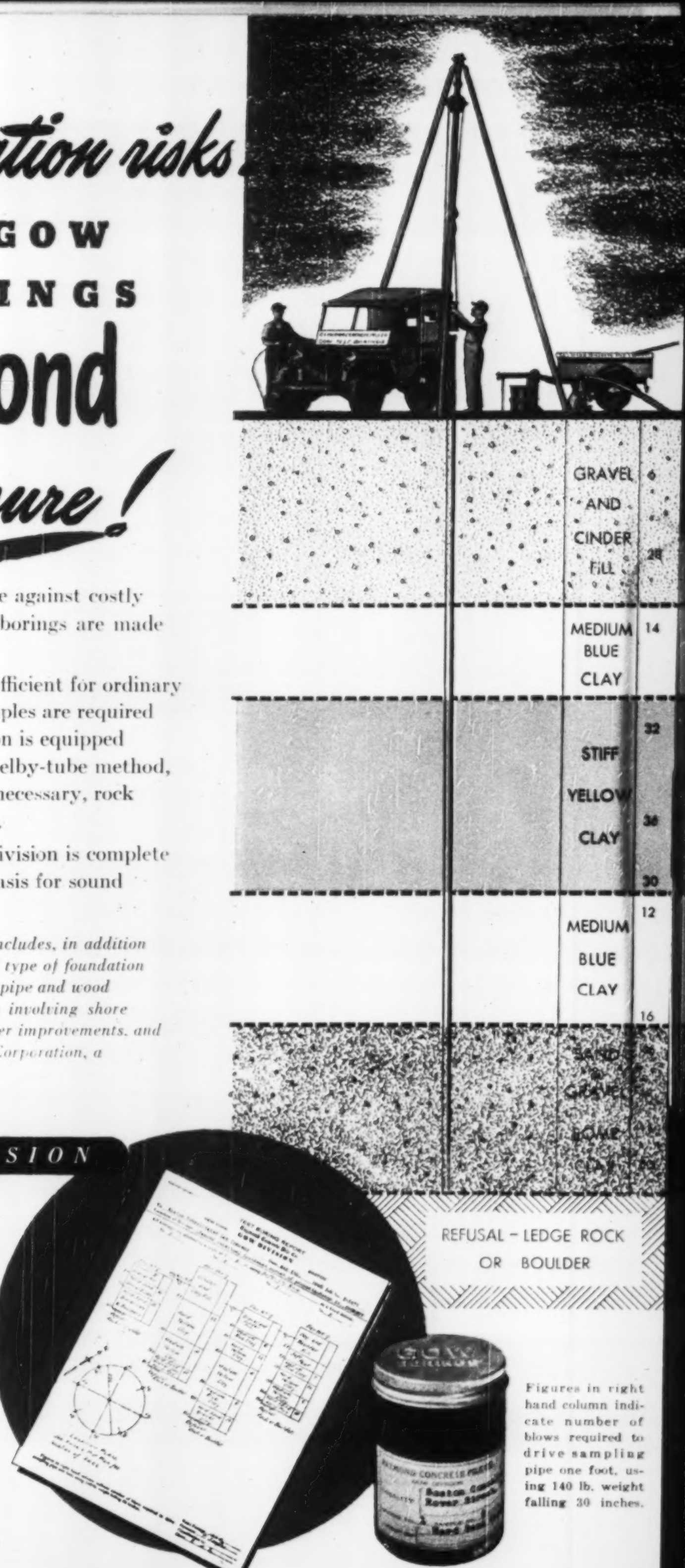

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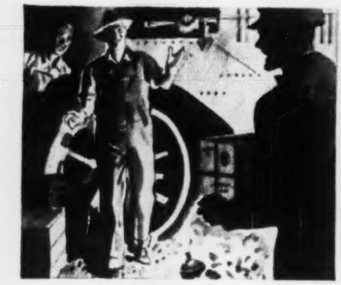

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OBITUARY

B. T. Himes, for 20 years assistant engineer of Palm Beach County, Fla., was drowned Jan. 6 while inspecting the Congress Ave. bridge over the West Palm Beach canal.

Oscar Terrell, 64, for more than 16 years connected with the U. S. Engineers in the Jacksonville, Ala. district, died in Jacksonville Jan. 8.

Joseph M. McArthur, 72, authority on municipal power and water ownership, died Jan. 6 at Portland, Ore. After obtaining a master's degree in civil engineering at Cornell University, he entered the utilities field at Eugene, Ore., and in 1923 became chief engineer and later superintendent of the Eugene water and electric system, serving until his retirement in 1946.

Isaac W. Reynolds, 82, first commissioner of public works at Peekskill, N. Y., died at Montrose, N. Y., Jan. 7. He was educated at Rutgers University, and was formerly a member of Reynolds and Chase, civil engineers.

Charles Little, 48, executive secretary of the Ohio Valley Soil Conservation and Flood Control Congress, died Jan. 8 in Cincinnati. He was a graduate of Purdue University.

Thomas Jefferson Stockton, 61, engineer and director of planning for Fairfax County, Va., died Jan. 9 near Burke, Va. He became a member of the County Planning Commission in 1938, and was commissioned to help draft the present county zoning ordinance. In 1943 he was appointed planning engineer. He attended George Washington University and was employed while in Washington by the U. S. Coast and Geodetic Survey and later by the Southern Railway.

Russell S. Wenzslau, 61, business manager of the Toledo, Ohio, Board of Education since 1923, died Jan. 13. He was a graduate of Case School of Applied Science, Cleveland, and became an engineer for Mills, Rhines, Bellman & Nordhoff. He joined the Board of Education as a structural engineer in 1915. He directed the planning and supervised construction of Woodward, DeVilbiss, Macomber Vocational, and Whitney Vocational High schools and 20 elementary school buildings. He was currently planning a $6,000,000 modernization and expansion program to be carried out in the next five years.

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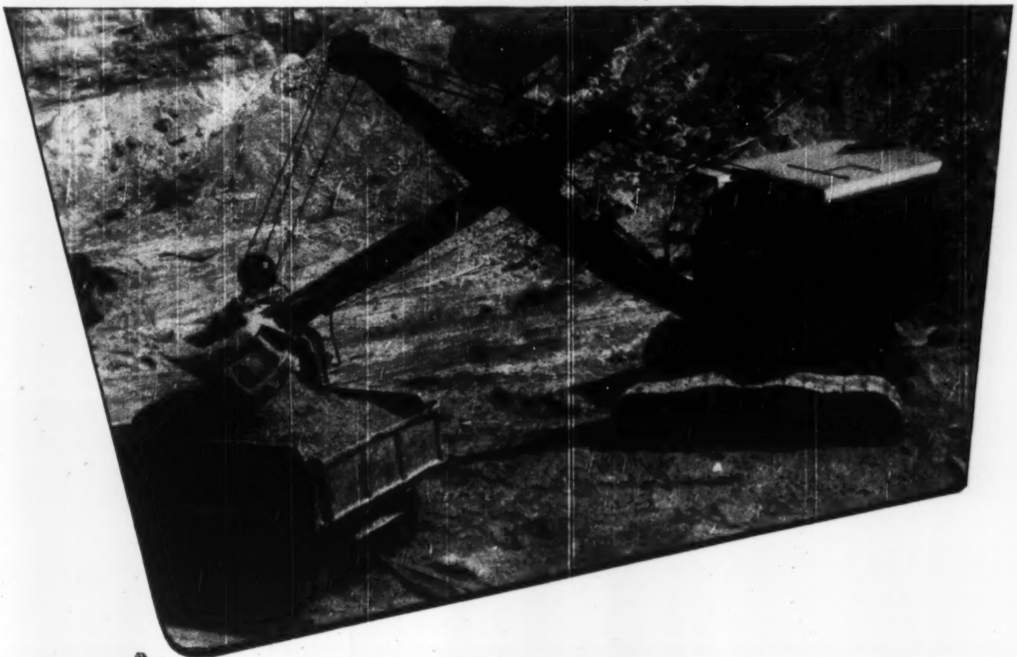

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Elections and Activities

Nathan F. LaDue has been elected president of the Rochester, N. Y., Home Builders Association. Other officers, Mortimer F. Merrill, vice-president; Charles D. Erdle, treasurer, and Daniel W. Fraysier, secretary. New directors are Theodore Z. Jablonski, James Christian, Joseph Bevacqua and M. Sanford Abbey. LaDue and Abbey were elected directors of the National Association of Home Builders.

Royal L. Brockob, president of the Royal L. Brockob Construction Co., Chicago, is president of the local builders association, succeeding Allan E. Bulley. Other officers, E. H. Marhoefer, Jr., vice-president; Arthur H. Wells, treasurer, succeeding George B. Dahl, who had served for 17 years. H. M. Stanton was re-elected executive secretary.

A. H. Johnson has been elected president of the Elmira Area Builders Exchange, Elmira, N. Y. Other officers are: Vice-president, A. F. Underhill; secretary-treasurer, M. Richard Carlson; directors, Mr. Johnson and James F. Bottcher.

Prof James G. Clark, civil engineering department, University of Illinois, is president of the Central Illinois section of the ASCE. Other officers: L. P. Murphy, 1st vice-president; W. L. Collins, 2nd vice-president; and Prof Ellis Danner, secretary-treasurer.

Charles M. Ross, manager of the East St. Louis and Interurban Water Co., was elected temporary chairman of the Bi-State Development Agency at the organization's meeting. W. Phillip Shatts, president of the Metropolitan Plan Association, who had served as secretary of the former Bi-State Commission, was chosen temporary secretary. Roos said the agency's immediate functions "are the preparation of an over-all plan of development and the preparation of specific plans for initiating self-financing operative projects such as airports, terminals, bridges, sewerage and drainage to effectuate the comprehensive plan. The general aim of the agency, however, is the co-ordinated development of the St. Louis, Mo., area as one economic unit."

Harold A. Kemp, director of sanitary engineering for the District of Columbia, has been elected Chairman of the Interstate Commission on the Potomac River Basin. The new Chairman succeeds Raymond V. Long, Commissioner, Virginia Department of Conservation and Development. Serving with Mr. Kemp are Harry G. Knox, Technical Adviser, Sanitary Board, Pennsylvania, Vice Chairman; Dr. Daniel L. Seckinger, Assistant Health Officer of the District of Columbia, Treasurer. I. Alvin Pasarew, Director of the Maryland State Planning Commission, was reappointed to the Technical Committee of the Interstate Commission.

The Calcasieu River Watershed Association has been formed by representatives of seven southwest Louisiana parishes, the purpose being to conserve natural resources, for flood control and economic development. Officers elected were: L. D. Mann, president; W. B. Williams, secretary-treasurer; and vice-presidents, Eraste Hebert, Pat Granberry, and W. J. Uncle Parishes represented were: Allen, Beauregard, Calcasieu, Camon, Rapides, Jeff Davis, and Vernon.

MAJOR MEETINGS

Association of Asphalt Paving Technologists, annual business meeting, Statler Hotel, St. Louis, Mo., Feb. 6-7.

National Association of Home Builders, Congress and Stevens Hotels, Chicago, Ill., Feb. 19-23.

American Concrete Institute, annual convention, Edgewater Beach Hotel, Chicago, Ill., Feb. 20-22.

National Council for Stream Improvement, annual meeting, Waldorf-Astoria Hotel, N. Y. City, Feb. 20-22.

Minnesota Federation of Engineering Societies, exposition, Minneapolis Armory, Minneapolis, Minn., Feb. 21-23.

Ontario Road Builders' Association, Royal York Hotel, Toronto, Ont., Feb. 22.

American Concrete Pipe Association, annual convention, Fairmont Hotel, San Francisco, Calif., Feb. 22-25.

Associated General Contractors of America, national convention, San Francisco, Calif., Feb. 27-March 3.

American Road Builders Association, annual meeting, Netherland Plaza Hotel, Cincinnati, Ohio, March 6-9.

American Railway Engineering Association, Palmer House, Chicago, Ill., March 14-16.

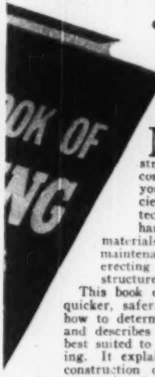
Concrete Reinforcing Steel Institute, annual meeting, The Shamrock Hotel, Houston, Tex., March 20-25.

New Jersey Sewage Works Association, annual convention, Hotel Stacy-Trent, Trenton, N. J., March 22-24.

Canadian Section, American Water Works Association, General Brock Hotel, Niagara Falls, Ont., April 3-5.

New Jersey Society of Professional Engineers, Essex House, Newark, N. J., April 14-15.

Highway Transportation Congress, Mayflower Hotel, Washington, D. C., April 25-27.



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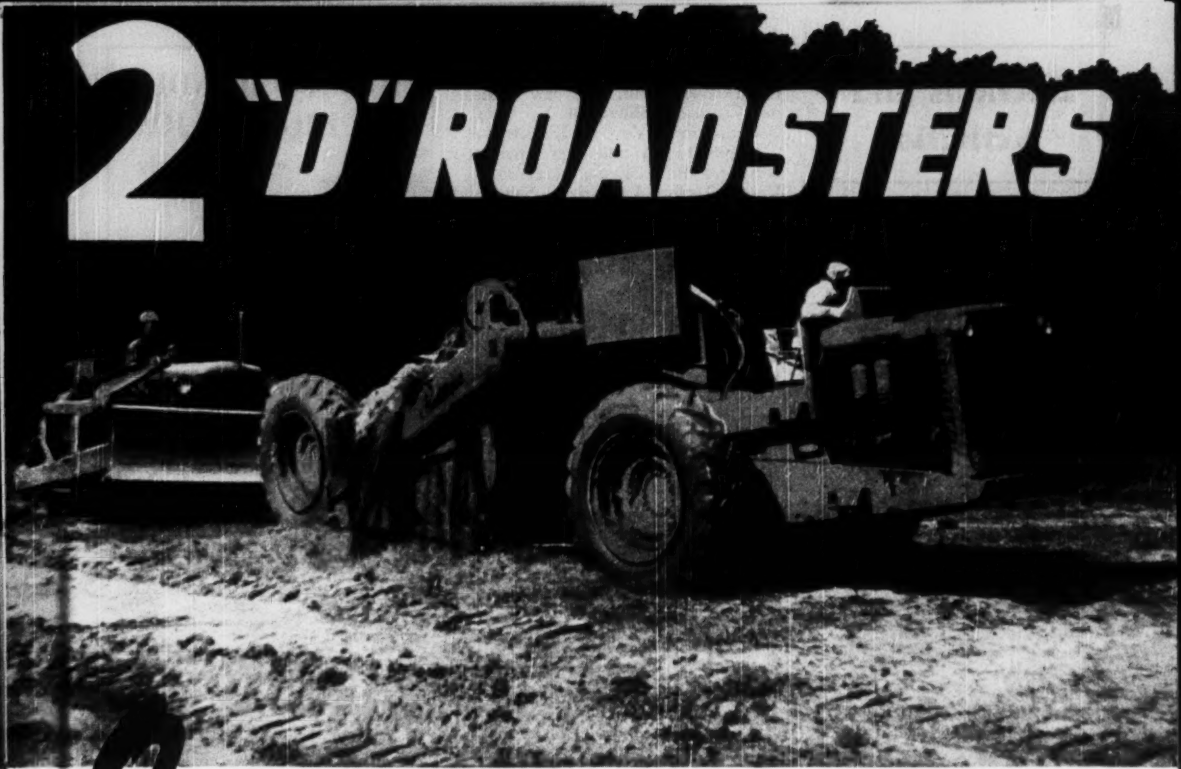


Orleans Construction Co. SETS FAST PACE ON SHORT HAULS WITH RUBBER-TIRED, 7-YD, "D's"

In suburban Elkins Park, near Philadelphia, Pennsylvania, over 450,000 yards of sandy clay are being moved to level a former private estate, stables and racing track for the new Lynnewood Gardens housing project. Orleans Construction Company of Philadelphia, had originally intended to handle the short-haul dirt with a 163 h.p. crawler tractor and 24-yard scraper. Then they compared yardage production with a LeTourneau rubber-tired, 7-yard D Roadster, which cost only half as much as the big crawler-scraper rig. They found that the smaller, high-speed "D" moved 93 yards an hour to the crawler's 96, on the same haul!

Assign 200,000 Yds. to 2 "D's"

As a result, Orleans Construction Company bought 2 of the utility-size D Roadsters, is using them as production dirtmovers on stripping, stockpiling and replacing 200,000 yards of topsoil. Their records show that in the first month of operation, on scattered long-haul dirtmoving operations, the 2 Roadsters moved 20,000 yards. Later, as definite haul cycles were established, the "D's" stepped rate of production way up. For example . . .

1000′ cycle every 2.1 min.

Stripping and stockpiling topsoil on a typically short, 500′ 1-way haul, each Roadster averaged a round trip every 2.1 minutes. Haul included a 20% approach grade onto top of stockpile, yet each "D" consistently delivered 24 loads an hour. That's a total of 48 loads hourly for the 2 fast, rubber-tired "D's" on the tight, 1000′ cycles.

Load in 15 seconds

On this fast stripping operation, Orleans Construction Co. used a pusher with their "D's" . . . got heaped capacity loads in an average of 15 seconds.

LETOURNEAU LeT EQUIPMENT

Mail Now **to: R. G. LeTOURNEAU, Inc., Peoria, Ill.** **Send us more facts on D ROADSTER.**

We're interested in: ☐ **specifications** ☐ **price** ☐ **job analysis on present operation.**

NAME.. **TITLE**..

COMPANY.. **TYPE OF BUSINESS**...........................

STREET.. **CITY**.......................... **STATE**.......................

Type of work to be handled: ....

DELIVER 48 LOADS AN HOUR

on 500-foot, one-way haul...

The heavy sod and topsoil packed well into the Scraper bowl, heaped up almost square, and easily averaged over 6 pay yards per load. Commenting on these fast cycles and oversize loads, Supt. Howard France said, "It's amazing how much yardage D Roadsters deliver on a production job".

Report 90% operating efficiency

Supt. France further reports that in their first three months of operation on the housing project site, these new Roadsters have maintained this fast dirtmoving pace *with 90% job efficiency.*

Like Orleans Construction Company, you'll find this fast, rubber-tired D Roadster profitable on short, medium and long hauls . . . productive in fleet operation with a pusher. It's economical, too, as a self-loading unit for one-man dirtmoving wherever you have a lot of scattered, small-yardage maintenance jobs.

Check the new, low-cost yardage this 100 h.p., 25 m.p.h. D Roadster offers on your work. Your LeTourneau Distributor is ready with job-proved facts . . . and will gladly arrange for a demonstration right on your job. Write, or call TODAY!

LETOURNEAU

PEORIA, ILLINOIS

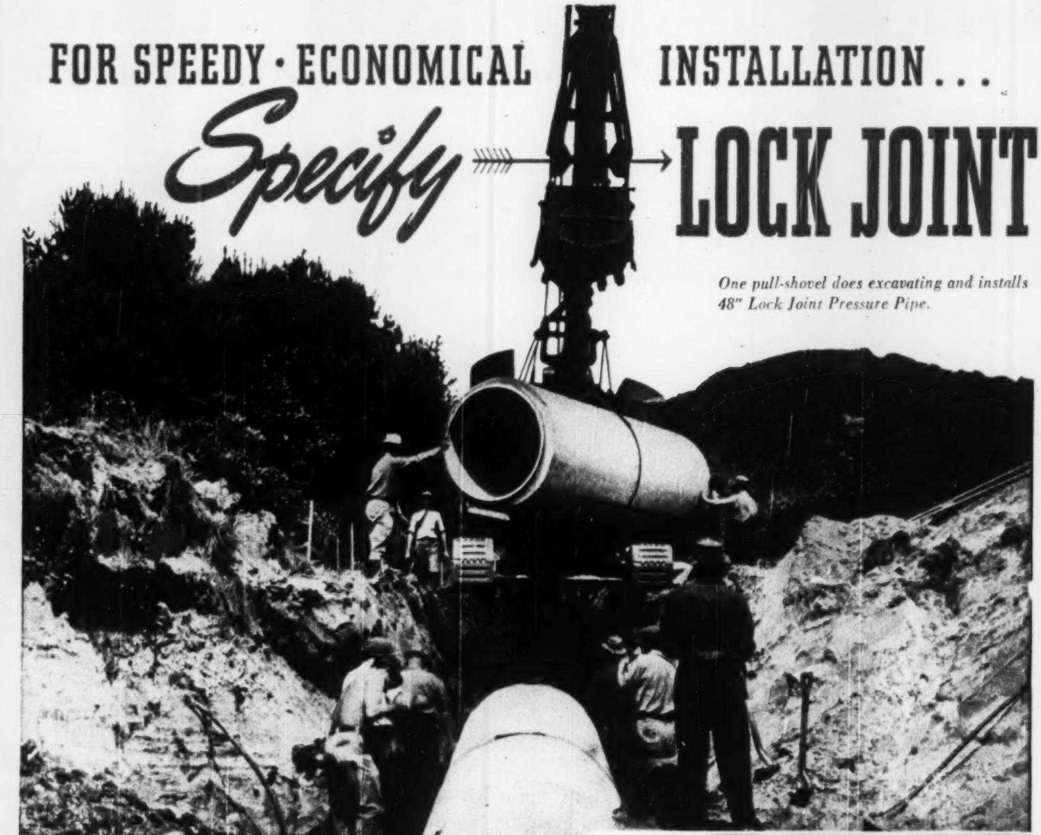
JOB-PROVED
Over 6,000 Built and Shipped

TOURNAPULLS

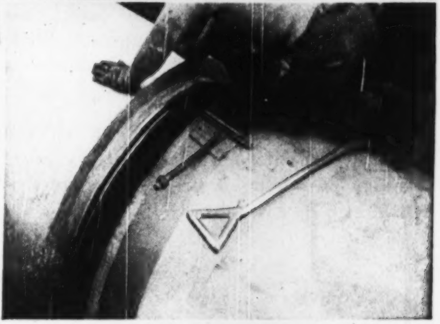
MORE WORK PER HOUR WITH RUBBER-TIRED POWER

FOR SPEEDY · ECONOMICAL INSTALLATION . . .

Specify → LOCK JOINT



One pull-shovel does excavating and installs 48" Lock Joint Pressure Pipe.



Rubber and Steel Joint ready to be pushed home.

• • • With its exclusive Rubber and Steel Joint, Lock Joint Reinforced Concrete Pressure Pipe is installed rapidly and efficiently in extremes of heat or cold—in wet ditch or dry.

Only one machine is required to make the excavation and install the pipe. No caulking or bolting of the joint is necessary, and the pipe may be back-filled immediately. The Rubber and Steel self-centering expansion joint is flexible to accommodate ground settlement, and is watertight at any internal pressures common to American Water Works practice.

Today, millions of feet of Lock Joint Reinforced Concrete Pressure Pipe, equipped with the Rubber and Steel Joint, installed at low cost and needing little or no maintenance, are giving unfailing service throughout the Western hemisphere.

LOCK JOINT PIPE COMPANY
Est. 1905
P.O. Box 269, East Orange, N. J.
PRESSURE PIPE PLANTS: Wharton, N. J. • Turner, Kan. • Detroit, Mich.

BRANCH OFFICES: Cheyenne, Wyo. • Denver, Colo. • Kansas City, Mo. • Valley Park, Mo. • Chicago, Ill. • Rock Island, Ill. Wichita, Kan. • Kenilworth, N. J. • Hartford, Conn.

SCOPE OF SERVICES—Lock Joint Pipe Company specializes in the manufacture and installation of Reinforced Concrete Pressure Pipe for Water Supply and Distribution Mains in a wide range of diameters as well as Concrete Pipe of all types for Sanitary Sewers, Storm Drains, Culverts and Subaqueous Lines.

LOCK JOINT
Reinforced Concrete
PRESSURE PIPE

UNIT PRICES BID BY CONTRACTORS

Master sanitary sewer system, Tampa, Fla.

Only 40% of Tampa's $8-million master sanitary sewer and treatment program has been let to date. The next letting is not expected before March, 1950. Bids on 5 subdivisions of the initial stage of the work were taken Sept. 21, 22 and 28, 1949 in 25 schedules of bids. Thus unit prices in unusual detail have been made available by the engineers, Roy K. Van Camp, superintendent of public works, Tampa and Greeley and Hanson, Chicago, consulting engineers.

The work contracted so far consists of 12 miles of trunk and intercepting sewers, 24 miles of street and alley sewers, 0.6 miles of subaqueous river and channel crossings, a 122 mgd pumping station and a primary sedimentation treatment plant designed for 36 mgd average annual flow to serve a population of 235,000 (1970 design basis). First stage completion date is spring of 1951, overall completion date, fall of 1952.

Concrete shown in the unit prices requires for Class A, 7.86 bags or 739 lb. of cement per cu. yd., Cl B 6.3 bags or 593 lb., Cl C 6 bags or 564 lb., Cl D 4.7 bags or 442 lb.

Wage rates prevailing in Tampa on this work are carpenters $1.75, electricians $2.25, plumbers $2, cement finishers $1.65,. reinforcing steel workers $1.75, laborers $0.85.

INTERCEPTING AND TRUNK SEWERS, 11 MI.		$1,426,775
A1	(1) Cone Bros. Contr. Co.	403,688*
	(2) Earl W. Baker & Co.	432,955
	(13) E. G. Constr. Co.	734,400
A2	(1) Cone Bros. Contr. Co.	196,245*
	(2) Leo Butler Co.	197,213
	(8) E. H. Reeder Const. Co.	289,824
B1	(1) Leo Butler Co.	446,231
	(2) Cone Bros. Contr. Co.	465,770*
	(12) United Constr. Co. of Mich.	862,148
C1	(1) Cone Bros. Contr. Co.	182,939*
	(2) C. T. Dawkins	196,960
	(5) Virginia Engr. Co.	295,043
C2	(1) C. T. Dawkins	55,617
	(2) Cone Bros. Contr. Co.	59,806*
	(7) Stansfield Constr. Co.	70,078
C3	(1) Cone Bros. Contr. Co.	158,328*
	(2) Blythe Bros. Co.	163,289
	(14) E. G. Constr. Co.	299,395
SEWER IMPROVEMENTS, 24 MI. OF SMALL STREET AND ALLEY SEWERS		$719,543
E1	(1) Higgins, Inc.	241,249*
	(2) Blythe Bros. Co.	264,022
	(8) C. H. Lawson	470,979
E2	(1) Mariani—O'Brien, Inc.	93,092*
	(2) Stansfield Const. Co., Inc.	95,211
	(11) Sullivan, Long & Hagerty	194,947
E3	(1) Stansfield Const. Co., Inc.	84,984*
	(2) Mariani—O'Brien, Inc.	91,906
	(12) George Consolidated	148,836
E4	(1) Stansfield Const. Co., Inc.	156,660*
	(2) Blythe Bros. Co.	190,860
	(8) Leo Butler Co.	230,748
E5	(1) Stansfield Const. Co., Inc.	143,558*
	(2) Mariani-O'Brien, Inc.	149,595
	(7) C. T. Dawkins	186,729

*Awarded contract ( ) numbers are low and high bidders.

INTERCEPTING AND TRUNK SEWERS

ITEMS — CONTR. A1		QUANTITY	UNIT PRICES A1(1)*	A1(2)
Add. ear. excav.	cy	2,000	0.40	2.75
Rock excav.	cy	100	6.00	4.00
Crushed rock	cy	100	7.00	5.60
Shell	cy	2,000	4.00	3.15
Limest. scr.	cy	100	5.00	4.80
Wood sheeting	Mfbm	5	200.00	100.00
Steel sheeting	lb	5,000	0.10	0.11
Cl. C Concr.	cy	10	50.00	55.00
" D "	cy	25	50.00	45.00
Add. steel reinf.	lb	1,000	0.10	0.13
Iron castings	lb	19,800	0.08	0.08
Add. br. masonry	cy	5	70.00	40.00
Manhole bases	ea	20	150.00	130.00
" barrel	lf	112	25.00	18.00
" drops	lf	5	10.00	25.00
Plank fndns.	Mfbm	5	150.00	185.00
Wood piles	lf	200	2.00	1.20
Superstructure	Mfbm	2	200.00	240.00
Curb replace.	lf	100	1.00	2.80
Concr. curb & gutter repl.	lf	100	3.50	3.80
Concr. sidewalk repl.	sy	100	5.15	6.00
Brick pave.	sy	2,000	3.50	2.70
Asph. concr. pave.	sy	100	2.50	2.65
Shell pave.	sy	400	1.30	2.60
Shell base	sy	4,100	1.45	2.00
Single surf. treat.	sy	100	0.40	1.50
Double surf. treat.	sy	1,900	0.55	2.00
Asph. sand seal wear. surf.	sy	100	0.15	0.60
Concr. pave.	sy	150	6.10	12.00
54" RCP sewer a	lf	5,347	28.00	35.00
54" RCP sewer b	lf	2,113	36.00	32.00
48" RCP sewer a	lf	1,832	24.00	21.00
48" RCP sewer b	lf	1,269	25.00	16.00
30" RCP sewer a	lf	1,083	11.00	12.00
30" RCP sewer b	lf	658	12.00	9.00
27" RCP sewer	lf	1,521	8.00	8.00
21" VCP sewer	lf	255	8.00	15.60
18" VCP sewer	lf	790	4.50	4.60
8" VCP sewer	lf	100	2.50	14.00
Manhole bases	ea	29	116.00	250.00
" barrel	lf	242	22.00	15.00
St. sewer cross.	ls		550	900
" " "	ls		300	400
R.R. cross.	ls		1,648	3,000
" "	ls		981	800
" "	ls		1,974	2,000
" "	ls		1,314	800
" "	ls		2,200	4,600
" "	ls		660	500
Spec. Cross.	ls		2,800	4,800
" "	ls		1,400	1,600
Junct. ch.	ls		1,400	2,800

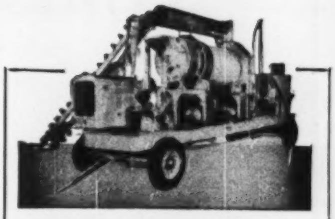
a, b sections separated according to difficulty of conditions encountered

CONTR. A2 — SEWER PIPE ITEMS ONLY		QUANTITY	UNIT PRICES A2(1)*	A2(2)
48" RCP sewer a	lf	1,019	20.00	20.00
48" " " b	lf	1,245	35.00	23.00
48" " " c	lf	789	34.00	23.00
42" " " a	lf	661	22.00	17.00
42" " " b	lf	1,653	13.00	17.00
36" " "	lf	364	10.00	15.00
27" " "	lf	1,206	6.50	12.00
18" VCP "	lf	132	5.00	16.00
24" " "	lf	25	8.00	24.00
Manhole bases	ea	10	116.00	187.00
" barrel	lf	75	22.00	13.00

CONTR. C1 — SEWER PIPE ITEMS ONLY			C1(1)*	C1(2)
21" VCP sewer a	lf	1,031	10.00	12.68
21" " " b	lf	849	11.00	11.83
21" " " c	lf	4,546	15.00	18.05
18" " " a	lf	272	8.50	10.56
18" " " b	lf	1,034	7.50	9.60
18" " " c	lf	289	5.00	7.40
18" " " d	lf	257	18.00	12.46
18" " " e	lf	2,837	8.00	10.05
6" VCP house conn	lf	1,100	1.50	1.29

CONTR. C2 — SEWER PIPE ITEMS ONLY			C2(2)*	C2(1)
15" VCP sewer a	lf	688	*7.00	6.20
15" " " b	lf	2,589	5.50	6.20
12" " " a	lf	1,521	4.00	3.66
12" " " b	lf	1,626	3.50	5.64
6" " house conn.	lf	1,800	2.00	1.29

Other unit prices on this work will appear in a future issue



PORTABLE ASPHALT PLANTS

Complete units for pavement maintenance. Capacities—4, 8, 12, 25 tons per hour.

Other Products

CONCRETE VIBRATORS

Gasoline Engine and Electric Motor Driven Models

HEATING KETTLES

for Asphalt and Tar

AGGREGATE DRYERS

for Stone and Sand

FRONT END LOADERS

for Industrial Tractors

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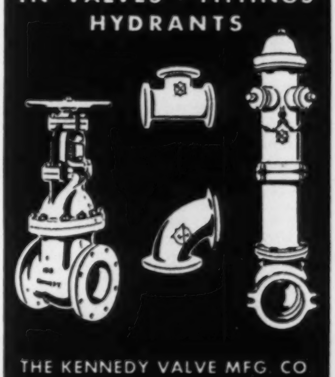
White Mfg. Co.

ELKHART INDIANA

SPECIFY KENNEDY

FOR DEPENDABILITY IN VALVES • FITTINGS HYDRANTS



THE KENNEDY VALVE MFG. CO.
1066 EAST WATER ST.
ELMIRA, NEW YORK

CONSTRUCTION REPORTS

Bids Asked—Low Bidders—Contracts Awarded

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

ELSIE EAVES, Manager ***J. A. MAHONEY, Reports*** ***M. R. ROESSLER, Statistics***

WATER SUPPLY

BIDS ASKED

N. C., **Kinston**—B.A. 2/7—S. H. Stroud, bus. mgr. Caswell Training School, Hospital Bd. Control, WW imprvs., Div. 1, drilling and testing deep well; Div. 2, elevated water storage tank; Div. 3, distr. main, pump house and tank foundations; Div. 4, deep well pump. Wiley & Wilson, 905 Peoples Bank Bldg., Lynchburg, Va., consult. engrs.

Pa., **Norristown**—B.A. 2/8—Dpt. Property & Supplies, 18 and Herr Sts., Harrisburg, water supply imprvs., Norristown State Hospital. Plans deposit $5. John H. Wickersham, 14 S. Duke St., Lancaster, engr.

O., **Dayton**—B.A. 2/9—Montgomery Co. Comn., Courthouse, installing 10 in. water line in Dorothy Lane, and 6 in. water line through west portion of Carremonte. $29,785.

Tex., **Eagle Lake**—B.A. 2/9—City, WW incl. water supply wells, pump house, reservoir. $105,000. Extended date. Plans deposit $25. The Marvin Turner Engineers, Nalle Bldg. Annex, Austin, engrs. CD 12/16.

Tex., **Dallas**—Bids Asked—Joe J. Danna, B. A. & Heyden Ellis, 4619 Verdun St., water lines, facilities, 10 acre site facing Compton St. $35,000. Otto Phillips, 2723 Mateur St., engr.

Tex., **Houston**—Bids Asked—Pleasantville, Inc., c/o M. A. Silverman, 6110 Almeda Rd., c.i. waterlines, facilities. $50,000. Still, Wildman & Crockett, 3500 Almeda Rd., engrs.

CONTRACTS AWARDED

Neb., **Omaha**—Metropolitan Utilities Dist., W. S. Byrne, genl. mgr., 18 and Harney Sts., elevated water tank to Chicago Bridge & Iron Co., 332 S. Michigan Ave., Chicago, Ill., **$254,200*****furnish, install 2 water pumps at Florence Station, to Dravo Corp., Neville Island, Pittsburgh, Pa., **$110,000**. Bids 1/10. CD 12/29.

N. Y., **Port Washington**—Port Washington Water Dist., 163 Main St., 1 m. g. elevated water storage tank on east side of Port Washington Blvd., to Chicago Bridge & Iron Co., 165 Broadway, New York, Zone 6, **$159,000**. Bids 1/11. CD 8/19.

Tex., **Corpus Christi**—Heldenfels Bros., 521 McBride Lane, c.i. waterlines, facilities. Owner builds. Approx. **$30,000**.

Wash., **Tacoma**—City, City Hall, 8 and 12 in. c.i. watermains in LID No. 5198, to Kendall Constr. Co., Tacoma. **$68,157**. CD 12/13.

SEWERS, WASTE DISPOSAL

BIDS ASKED

Mich., **Detroit**—B.A. 2/7—City, Dpt. P. Wks., City Hall, approx. 888 lin. ft. 7½ ft. internal diam. concrete or brick sewer, 22 standard manholes, removing 2 bulkheads, providing opening for 4 ft. sewers, Contr. PW-1116. G. R. Thompson, Griswold Bldg., Zone 26, city engr. CD 3/30/43.

Ia., **Boone**—B.A. 2/9—City, City Hall, sanitary lateral sewers, outfall sewer, pumping plant. $95,000, Henningson Eng. Co, Standard Oil Bldg., Omaha, Neb., engr. CD 11/2.

O., **Trenton**—B.A. 2/9—Village, Harry Stretcher, mayor, Trenton, sanitary sewerage sys. and treatment plant. $120,000. Ralph Woolpert, 360 W. 1st St., Dayton, engr. CD 3/29.

Tex., **Eagle Lake**—B.A. 2/9—City, sanitary sewer sys. imprvs., expans. $75,000. Extended date. The Marvin Turner Engineers, Nalle Bldg. Annex, Austin, engrs. CD 12/16.

Tex., **Dallas**—Bids Asked—Joe J. Danna, B. A. & Hayden Ellis, 4619 Verdun St., sanitary sewers, drainage, 10 acre site facing Compton St. $60,000. Otto Phillips, 2723 Mateur St., engr.

SOON LETS CONTRACT

Ky., **Louisville**—Kraft Food Co., Owenton, soon lets contract, activated sludge bed, structural steel, supports for tanks, piping, etc., $50,000. Mark B. Owen, 1920 N. Meridian St., Indianapolis, Ind., engr.

LOW BIDDERS

Md., **Hyattsville**—Washington Suburban Sanitary Comn., Hamilton St., Jan. 16, Contr. 245-S, Paint Branch Trunk Sewer from Northeast Branch to Baltimore-Washington Blvd., Berwyn Dist., approx. 590 ft. 10 in. CSPX, 5,880 ft. 30 in. RCCP, 190 ft. 30 in. sewers, from Inter County Constr. Co., 4720 Baltimore Ave., **(A) $93,400 (B) $96,340**. CD 1/4.

Mass., **Lawrence**—City, Gordon F. Gaffney, clk., Jan. 9, refuse incinerator, from Morse Boulger Co., 205 E. 42 St., New York, N. Y., (A) **$508,446**, (B) **$489,446**. CD 12/12.

Tex., **Edna**—City, Jan. 16, sewage disposal plant Unit 1, from J. L. Williams, 2502 Robinhood St., Houston. **$59,965**. CD 12/20.

CONTRACTS AWARDED

▲ Calif., **Oakland**—East Bay Municipal Utility Dist., 512 16 St., Sects. 5 and 6, South Interceptor Sewer, Spec. SD-42, to Fred J. Early Jr. Co., Inc., 369 Pine St., San Francisco, Duncanson-Harrelson Co., de Young Bldg., San Francisco, and Stolte, Inc., 8451 San Leandro St. **$4,380,897**. Bids 12/29. CD 1/4, under LB.

▲ Calif., **San Francisco**—Dpt. P. Wks., City Hall, Southeast Sewage Treatment Plant, Spec. 20,600, to Walsh Constr. Co., 785 Market St., Bates & Rogers Constr. Corp., 209 Post St., and J. H. Pomeroy & Co., 333 Montgomery St., **$2,132,118**. Bids 1/10. CD 1/17, under LB.

Ill., **Chicago**—City, City Hall, Zone 2, Imlay St. Sewer on West Shreiber to W. Hayes to Evergreen St. to Imlay to North Branch of River, to Santucci Constr. Co., 5044 Carol St., Skokie, **$508,392**. Bids 10/31, awarded 12/22. CD 11/9, under LB.

Ill., **Chicago**—City, City Hall, Zone 2, auxiliary outlet sewer Paulina St. system in Wood St. from 87 to 74 Sts. on 81 to Ashland Sts. on 77 to Ashland Sts., to Michael Pontarelli, Inc., 4248 N. Kilpatrick St., Zone 41, **$963,668**. Bids 11/22, awarded 12/22. CD 11/28.

Tex., **Carthage**—City, sanitary sewers, force account. Approx. **$60,000**. CD 3/24.

Tex., **Corpus Christi**—Heldenfels Bros., 521 McBride Lane, sanitary sewers. Owner builds. Approx. **$60,000**.

▲ Tex., **San Antonio**—City, City Hall, Military Plaza, Sect. 3, sewage disposal plant enlargement and Sect. 2, sanitary sewer plant unit and remodeling, to H. B. Zachry Co., Transit Tower, **$841,781**, est. $800,000 and **$249,000**, est. $200,000 respectively. Bids 1/20. CD 1/11.

BRIDGES

LOW BIDDERS

Iowa—State Hy. Comn., Ames, Jan. 17 wid'n five 70 ft.x24 ft. concrete arch spans to 48 ft. roadway with two 5 ft. sidewalks with steel handrail on U. S. 71 and U. S. 18, at Little Sioux River Crossing in Spencer U-935 (2), Clay Co., from Weldon Bros., Iowa Falls, **$111,008**, CD 1/5.

Pennsylvania—State Hy. and Bridge Auth., Harrisburg, Jan. 20, continuous plate girder and concrete deck I-beam bridge, rein.-con. paving, plain concrete gutter and bit. surf. for pavement adjustment 1,527 ft. L. R. 162 (10), 13046 (3); 550 (7). T. R. 209, 309, 45 and 903 in vicinity of Mauch Chunk and East Mauch Chunk Boros over the Lehigh River, Carbon Co., from Pine Brook Iron Wks., 105 Middle St., Scranton. **$463,536**. Est. $550,000. CD 12/29.

PROJECTS COVERED

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger: water supply, earthwork, waterways $28,000; other public works $50,000; industrial buildings $68,000; other buildings $250,000.

Classes of Construction

(Name in order of Listing)

Water Supply
Sewers, Waste Disposal
Bridges
Streets & Roads
Earthwork, Waterways
Latin America
Public Buildings
Commercial Buildings
Industrial Buildings
Unclassified

Stages Reported

PROPOSED WORK: Including appointment of engineers or architects.

BIDS ASKED (new announcements only). For full calendar, see also preceding issues of ENR.

LOW BIDDERS: On jobs below $500,000 value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

Symbols and Abbreviations Include:

†	Federal Government
▲	Project of $1,000,000 or over.
B.A.	Bids Asked
ENR	Engineering News-Record
CD	Engineering News-Record Construction Daily

Virginia—State Hy. Dpt., Richmond, Jan. 17, underpass on U. S. 58, beneath Southern R. R. replacing narrow structure near eastern city limits of Danville, from Clyde R. Royals, Hampton, **$135,831**, CD 1/4, under Streets & Roads.

CONTRACTS AWARDED

Florida—State Rd. Dpt., Tallahassee, hydraulic embankment, approaches, stabilizing, 6 in. single course miami rock bit. one bridge 1.513.75 ft. long concrete deck girder spans on concrete caps and concrete piling with electrically operated trunnion-type bascle span and steel I-beam spans adjacent to bascule piers, small drainage structures, 1.155 mi. State Rd. 502 Indian River Bridge and approaches in Vero Beach, S-267 (1), Job. 8803-201; 8803-104, Indian River Co., to Cleary Bros. Constr. Co., West Palm Beach. **$608,289**. CD 1/18, under LB.

▲ Fla., **Bay Harbor (P.O. Miami Beach)**—Town of Bay Harbor Islands, 9665 Bay Harbor Terrace, Miami Beach, causeway from Bay Harbor Island to N.E. 123 St., North Miami, to Allegheny Asphalt & Paving Co., Inc., Bingham and 8 Sts., Pittsburgh, Pa. Approx. **$2,500,000**. M. G. Garris, 622 S.W. 27 Ave., Miami, engr.

Missouri—State Rds. Comn., Jefferson City, two 30 ft., two 70 ft., one 80 ft., continuous I-beam spans, Station 497 plus 86 over Chariton River D.D., Rte. 36, Proj. F 231 (6), road, from New Cambria to Callao, Macon Co., to Atkinson Windle Co., Chillicoth. **$136,591**. Bids 1/4, awarded 1/20. CD 1/11 under LB.

Nebraska—State Dpt. Roads & Irrigation, Lincoln, and City of Omaha, City Hall, 18 and Farnam Sts., Omaha, Q St. viaduct, FAGM FG-501, Douglas Co., to Condon-Cunningham Co., 4229 Lafayette St., Omaha. **$801,112**. Bids 1/12. CD 1/18, under LB.

▲ Neb., **Decatur**—Burt County Bridge Comn., W. W. Small, chn., Decatur, bridge over Missouri River into Iowa, to William J. Howard, Inc., 35 E. Wacker St., Chicago, Ill. **$1,454,000**. Est. $1,488,000. Kirkham Eng. Co., 1504 Dodge St., Omaha, Neb., engr. Bids 1/19.

STREETS AND ROADS

BIDS ASKED

† Wash., **Bremerton**—B.A. 2/14—Pub. Wks. Officer, Navy Yard, Bremerton, resurf. pavements between Dry Docks 1 and 2 at Puget Sound Naval Shipyard, Specs. 23587. Plans deposit $10.

Tex., **Dallas**—Bids Asked—Joe J. Danna, B.A. & Hayden Ellis, 4619 Verdun St., street constr., paving. 10 acre site facing Compton St. $50,000. Otto Phillips, 2723 Mateur St., engr.

LOW BIDDERS

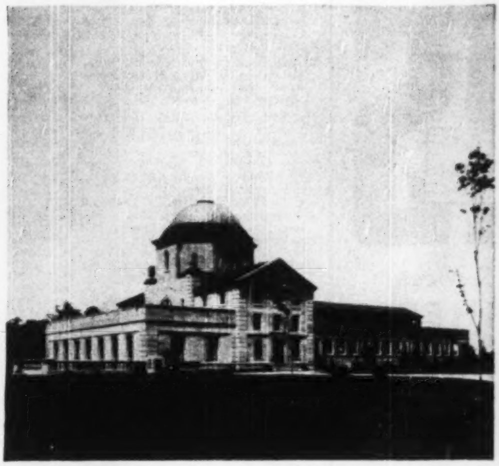
California—State Div. Hys., 120 S. Spring St., Los Angeles, Jan. 19, plant mix on cement treated surf. 5.1 mi., constr. two rein.-con. bridges between 0.4 mi. north of Palaomas Wash, Los Angeles Co., from Basich Bros. Constr. Co., Basich Bros., W. D. LeFever, and D. Gerald Bing, 3850 San Gabriel Blvd. San Gabriel, **$793,306**. CD 12/28.

Calif., **Los Angeles**—Los Angeles Co., 501 Hall of Records, Jan. 19, imprv. approx. 3,600 ft. Myrtle and Calgrove Aves., C. C. 0-665, from Kirst & Sons, 836 W. Atlanta St., Altadena, **$51,174**, Est. $50,000. CD 12/29.

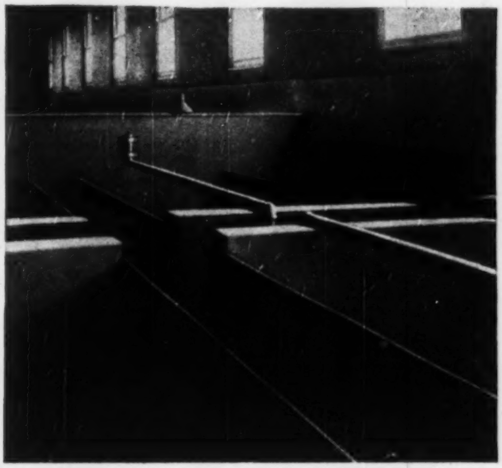
Iowa—State Hy. Comn., Ames, Jan. 17, grading 6.546 mi. Iowa 24 out of Jackson Junction southwesterly into Lawler, F-357 (6), Chickasaw and Winneshiek Counties, from Lowe Constr. Co., 506 Dunreath Dr. N. E., Marion, **$53,984**; rolled stone base and heavy bit. surf. tr. 14.053 mi. Iowa 93 from Sumner E. into Fayette, F-389 (8), Fayette Co., from S. J. Groves & Sons Co., 510 Wesley Temple Bldg., Minneapolis, Minn., **$286,912**. CD 1/5.

Kentucky—State Hy. Dpt., Frankfort, Jan. 13, traffic bound over grav. 0.378 mi., S. P. 19-31 Newport-Maysville Rd., culvert and approaches, at Four Mile Creek S 19 (3); Campbell Co., from Foster & Creighton, American National Bank Bldg., Nashville, Tenn., **$135,971*****traffic bound limestone 2.985 mi., Munfordville-Elizabethtown Rd., FE 169 (11) S. P. 50-20, Hart Co., from L. G. Arnold, Inc., Fau Claire, Wis. **$157,737*****bit. surf. class I, 19.01 mi. S. P. Group 1 (1950), Marshall Co., from R. B. Tyler Co., 1446 Levering St., Louisville, **$107,957*****bit. surf. Class I, 13.44 mi. S. P. Group 2 (1950) Henderson Co., from Paul A. Teegarden, Inc., Columbus, Ind., **$91,303***** Class I bit. surf. 5.361 mi. S.P. Group 3 (1950), Jefferson Co., from H. K. Williams, 4141 Park Blvd., and Breslin Constr. Co., 1801 S. Brook St., Louisville, **$91,368*****Class F (slag aggregate) 13.941 mi. S.P. Group 6 (1950), Floyd Co., from Adams Trucking & Contr. Co., Paintsville, **$69,607*****Class I, bit. surf. 43.903 mi. S. P. Group 8 (1950), Fleming, Nicholas and Bath Counties, from Breslin Constr. Co., 1801 Brook St., Louisville, **$195,941*****Class F bit. surf. 15.291 mi. S.P. Group 9 (1950), Union Co., from H. K. Williams, 4141 Park Blvd., Louisville, Zone

(Continued on page 68)



West Pumping Station and Filtration Plant, Bureau of Water, Erie, Pa.



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The Bureau of Water, Erie, Pa., started to use metallizing in 1930, when they sprayed zinc on all bolts and nuts used in the construction of a 72" dia. 8800 ft. intake. In 1932 a new filtration plant was placed in operation, but in only 18 months heavy corrosion was noted on the 110,000 gallon wash water tank interior. So they metallized the 32 ft. dia. x 19 ft. deep tank with .006" pure zinc. After six years no rusting had occurred, even though the tank interior is intermittently exposed to water and air.

Saved—Repair Costs and Nine Weeks' "Down" Time—Superintendent states that with ordinary methods of protection there would have been three periods of suspended service for the tank, each of them lasting for at least three weeks. "Now, however," he points out, "with no indications of a breakdown of the zinc coating, which has been in continuous operation for six years, we feel assured that the metallized surfaces will give many more years of perfect protection."

Other Jobs—This same user reports that metallizing has stopped corrosion on a number of other jobs done since the tank described above. These include steel filter troughs—some of which had already become so badly corroded that small holes had penetrated through the metal. These holes were filled with the sprayed metal at the time the coating was applied, thereby restoring to use troughs which otherwise would be considered worn out. They've also used metallizing to stop corrosion in boiler plant feed-water treating tanks, on steel ladders in basins and reservoirs, brace rods, sluice gates and, as user states, "all metal surfaces subject to rapid oxidation."

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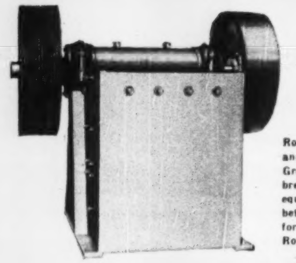

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(Continued from page 66)

9, **$69,944*****Class F. bit. surf. 37.648 mi. S. P. Group 10 (1950), Hardin and Grayson Counties, from Ralph Rogers & Co., Inc., 720 Argyle Ave., Nashville, Tenn., **$223,595.** CD 12/28.

Massachusetts—Commonwealth of Mass., Dpt. P. Wks., Boston, Jan. 17, state hy. and bridge constr., Barnstable, from Canpanella & Cardi Constr. Co., 780 Jefferson Blvd., Warwick, R. I., **$445,586.** CD 1/9.

New York—Bureau Contracts & Accounts, Albany, rejected bids Dec. 28, construct 1.05 mi. Niagara Thruway along route of Perry Blvd. between Court St. and Porter Ave. in city of Buffalo, incl 0.86 mi. twin 37 ft. wide c. conc. paved arteries separated by 20 ft. mall on the Thruway, 0.19 mi. b. conc. paving connections at Porter Ave. and Court St., Erie Co. L. B. **$442,553.** CD 12/30, under LB.

▲ **Pennsylvania**—State Hy. and Bridge Auth., Harrisburg, Jan. 20, rein.-con. paving 33 ft., 46 ft. and variable in width, incl. 4 rein.-con. structures, divided hy. consisting 22 ft. lanes of rein.-con. paving on either side of concrete divisor and construct rein.-con. arch and rein.-con. bridge 43,312 ft. L. R. 79 (4). T. R. U. S. 422, from point in city of New Castle to point near the Lawrence-Butler Co. line, Lawrence Co., from V. N. Holderman & Sons, Inc., 297 S. High St., Columbus, O., **$2,223,349.** CD 12/29.

Pennsylvania—State Hy. Dpt., Harrisburg, Jan. 20, c. conc. paving 38 ft. and variable in width, one rein.-con. bridge and drainage 1,053 ft. L. R. 639 (16). T. R. 180, in City of Jeannette, Westmoreland Co., from Weaver Coal & Constr. Co., R. D. 3, Greensburg, **$81,107*****wid'n. pavement left and right with c. conc. base and crushed aggregate base, bit. surf. new base and existing pavement, incl. repairing structure, crushed aggregate base with bit. surf. 20,506 ft. L. R. 75, Sec. R-2. T. R. 38 from Cherry Valley Boro south to Eau Claire Boro, also from point 3.4 mi. from Butler to point 2 mi. from Boydstown, Butler Co., from The Kelley & Meyer Co., 707 Dollar Bldg., Youngstown, O., **$163,975.** CD 1/4.

Virginia—State Hy. Dpt., Richmond, Jan. 17, c. conc. 1.76 mi. Rte. 13, from 2.07 mi. north of N.C.L. Accomack to 0.06 mi. north of Zion Church, Proj. 1601-02, Old S.P. 38-W4, RI. FP No. F-38 (4), Accomack Co., from Heckler Bros., Inc., 15½ Nine Mile Rd. Richmond, **$218,302*****mcad. bit. surf. tr. 3.7 mi. Rte. 7, from 1.33 mi. east of E.C.L. Leesburg to 1.9 mi. E. Goose Creek, Proj. 27 53-02, Old S.P. 514, RI FP F-208 (5), Loudoun Co., from Richard F. Kline, Water St, Frederick, Md., **$269,036** ***macad. and bridge over Rte. 11.0.71 mi. Rte. 11 and 100 from 0.37 mi. west of Old E.C.L. Dublin to 0.2 mi. west of W.C.L. Dublin, Proj. 1677-01-02, 3877-03, Old S.P. 1402-C1, M2; 1216-B2, FP F-FI-449 (9), Pulaski Co., from Pendleton Constr. Corp., Wytheville, **$103,621.** CD 1/4.

CONTRACTS AWARDED

Ga., Atlanta—City, laying sidewalks in city for year of 1950, to Associated Building Contractors, Inc., 68 Peachtree St. N. W., **$107,400.** CD 12/21.

La., Plaquemine—Town, Town Hall, street imprvs., to T. L. James & Co., Inc., Ruston, **$513,905.** Bids 1/10. CD 1/19.

▲ **Massachusetts**—Commonwealth of Mass., Dpt. P. Wks., 100 Nashua St., Boston, state hy. and bridge constr., U-272(27), Burlington; and state hy. and bridge constr. U-272(22), Reading-Woburn, to Lane Constr. Corp. 37 Colony St., Meriden, Conn., **$1,024,799** and **$2,038,577**, respectively. Bids 12/30, awarded 1/12. CD 12/29.

▲ **New Jersey**—New Jersey Turnpike Auth., 65 Prospect St., Trenton, grading, drainage, ½ mi. stretch through the Bayway Refinery, Union Co., to Poirier & McLane Corp., 33 W. 42 St., New York, N. Y., **$1,968,730.** Bids 12/20, awarded 1/19. CD 12/23, under LB.

Tex., Angleton—Brazoria Co., Angleton, road constr., drainage, shell and asph. surf., Precinct 1, **$65,000**; Precinct 2, **$55,000** Precinct 3, **$57,000** Precinct 4, **$80,000**, Purchase and Hire. Grand total $257,000. CD 8/29.

Ont., Mille Roches—Cornwall Twp., Mille Roches, road construction program for 1950, day labor, **$100,000.** CD 1/17.

Ont., St. Thomas—Suburban Roads Comn., St. Thomas, road mulch serval areas and armor coat pavement in other areas, own forces. **$55,000.**

EARTHWORK, WATERWAYS

BIDS ASKED

† **Illinois**—B.A. About 2/8—U. S. Eng., 826 U. S. Court House and Custom House, 1114 Market St., St. Louis 1, Mo., constr. about 5,700 lin. ft. earthen levees in Prairie Du Rocher and vicinity, Proj. Item I-B (1) (Edgar Lakes and Prairie Du Rocher & Modoc D. and L. Distrs.), Randolph Co., near Prairie Du Rocher, Ill., along left bank of Prairie Du Rocher Creek, opposite mile 130 of Mississippi River above month of Ohio River, incl. placing 81,000 cu. yd. earth, foundation preparation, fertilizing, seeding and mulching 8 acres of levees surfaces. CD 1/19.

B. C., Port Mann—B.A. 2/8—Asst. Secy. Dpt. P. Wks., Hunter Bldg., Ottawa, Ont., dredging 550,000 cu. yd. sand, silt and debris, Fraser River, Port Mann Channel. Approx. $700,000. R. Blais, c/o owner, engr.

† **Illinois**—B.A. 2/10—U. S. Eng., 826 U. S. Court House and Custom House, 1114 Market St., St. Louis 1, Mo., about 14,900 lin. ft. earthen levees and 9,000 lin. ft. earthen spoil bank, new 18 in. gravity drain, relocating an 18 in. and 12 in. drain, exten. 12 in. drains, Columbia Drainage & Levee Dist., Proj. Item I-A, Monroe Co.

† **Ohio**—B.A. 2/10—U. S. Eng., Madison Ave. and 8 St. West Huntington 18, W. Va., Storms Creek Bank Protection, Local Protection Proj., Ironton, Serial No. CIVENG-46-022-50-69. CD 1/9.

† **N. Y., Hoosick Falls**—B.A. 2/13—U. S. Eng., 80 Lafayette St., New York, Zone 13, channel imprvs., Hoosick Falls Flood Control Proj. $350,000. CD 10/12/45.

† **Georgia**—B.A. About 2/14—U. S. Eng., P. O. Box 1169, Mobile, 7, Ala., constr. Saddle Dike 3 and spillway for Buford Dam, Buford, Serial No. CIVENG-01-076-50-43.

† **California**—B.A. 2/14—Bureau Reclamation, Dpt. Interior, Friant, Calif., earthwork, pipe lines, structures, laterals 124.5W, 126.7W, 128.5W and 129.8W, unit 2. S.S.J.M.U.D. Friant-Kern Canal Distribution System, Central Valley Proj., near Delano, Spec. 2893. Michael W. Straus, comr.

▲† **Texas**—B.A. 2/14—U. S. Eng., 606 Sante Fe Bldg., Galveston, completion embankment, Grapevine Dam and Reservoir Denton Creek, Elm fork of Trinity River, Tarrant Co., Inv. No. 41-243-50-151. Approx. $1,350,000. CD 11/11.

† **Florida**—B.A. 2/15—U. S. Eng., P. O. Box 4970, Jacksonville, constr. Levees L-35 and L-36, Central and Southern Florida Flood Control, near Ft. Lauderdale, Inv. No. CIVENG-08-123-50-54. Extended date. CD 1/5.

† **New York**—B.A. 2/15—U. S. Eng., Niagara and Bridge Sts., Buffalo, Zone 7, clearing Mount Morris Reservoir, Mount Morris, Serial No. CIVENG-30-023-50-33.

† **Texas**—B.A. 2/15—U. S. Eng., 606 Santa Fe Bldg., Galveston, turfing, sodding, mulching, etc., Grapevine Dam and Reservoir area, Inv. No. CIVENG-41-243-50-97. Approx. $30,000. Plans deposit $10. CD 1/19.

† **Nebraska and Kansas**—B.A. 2/16—Bureau Reclamation, Dpt. Interior, Superior, Neb., earthwork and structures, Superior Canal, Station 1083 plus 00 to end Station 1628 plus 09.75, and drains, channel changes and terminal wasteway, Superior-Courtland Unit, Bostwick Div., Missouri River Basin Proj., Spec. No. 2895.

† **Missouri**—B.A. About 2/17—U. S. Eng., 601 Davidson Bldg., Kansas City 8, Mo., seeding of Levee Unit 488L along left bank of Missouri River in Hope Co., near Forbes, CIVENG-23-028-50-87.

▲† **California**—B.A. 2/17—U. S. Eng., 751 S. Figueroa St., Los Angeles, dredging earthwork, jetty construction, levee, etc. San Diego River and Mission Bay Imprvt. Floodway, San Diego, San Diego Co., CIVENG-04-343-50-24, $2,000,000-$5,000,000. CD 6/9/44.

LOW BIDDERS

▲† **California**—U. S. Eng., 751 S. Figueroa St., Los Angeles, Jan. 18, Los Angeles River Imprvt., Whitsett to Fulton Aves., bridge and paving, CIVENG-04-353, from A. Teichert & Sons, Inc., Box 436, North Hollywood, **$1,069,283**. Est. $1,400,000. CD 12/15.

† **Illinois**—U. S. Eng., 826 U. S. Court House and Custom House, 1114 Market St., St. Louis 1, Mo., constr. Cahokia Pumping Station, Proj. Item II-C, East St. Louis and vicinity (East Side Levee and Sanitary Dist.), Madison and St. Clair Counties, Inv. CIVENG-23-065-50-55, from Moore Bros. Constr. Co., 2000 St. Clair Ave., East St. Louis, **$237,809**. Est. $343,207. CD 12/30.

† **Louisiana**—U. S. Eng., foot of Prytania St., New Orleans, Zone 9, Jan. 10, 2,300 cu. yd. concrete capping cast in place, pre-cast on portion of West Jetty at Southwest Pass, Mississippi River, located between Miles 18 and 20 below the Head of Passes in Plaquemines Parish, approx. 115 mi. from New New Orleans. CIVENG 16-047-50-144, from Lester F. Alexander Co., 830 Audubon Bldg., Nw Orleans. **$122,118**. CD 12/9.

Louisiana—Iberville Parish Police Jury, Plaquemine, Jan. 17, approx. 1,827,000 cu. yd. channel excav., approx. 26 acres clearing and grubbing, from Carroll Drainage & Constr. Co., Lake Providence, **$208,972**. CD 12/30.

† **New Jersey**—U. S. Eng., 80 Lafayette St., New York 13, N. Y., Jan. 19, maintenance dredging 182,200 cu. yd. Passaic River from Gregory Ave. to 8 St., Passaic Co., CIVENG-30-075-50-66, from Gibson & Cushman, 38 Homan Ave., Bay Shore, N. Y., **$145,578**. Est. $141,650.

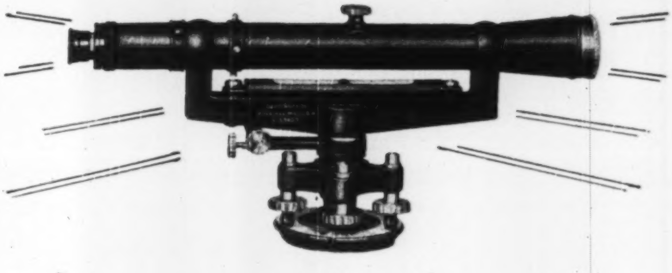
Pennsylvania—General State Auth., 18 and Herr Sts., Harrisburg, Jan. 18, construct recreational, flood control dam at French Creek State Park, Berks Co., from Floyd M. Rhodes, Jr., 610 Franklin St., Reading, **$133,698**. Est. $294,000. Bids 1/18. CD 12/29.

† **Texas**—U. S. Eng., 606 Santa Fe Bldg., Galveston, Jan. 10, dredging Freeport Harbor from Quintana Point to and including Brazosport Turning Basin, Brazoria Co., CIVENG-41-243-50-117, from Bauer-Smith Dredging Co., Inc., P. O. Box BB, Port Lavaca. **$107,386**. Est. $84,543.

† **Texas**—U. S. Eng., 606 Santa Fe Bldg., Galveston, Jan. 17, dredging 834,000 cu. yd. Gulf Intracoastal Waterway in Laguna Madre between Corpus Christi and Mud Flats. Inv. No. CIVENG-41-243-50-134, from Bauer-Smith Dredging Co., Port Lavaca, **$122,114**. Est. $140,000. CD 12/29.

▲† **Texas**—U. S. Eng., 606 Santa Fe Bldg., Galveston, Jan 12, excavation of spillway and construct east portion embankment, Garza-Little Elm Dam and Reservoir, Trinity River, Elm Fork, near Lewisville, Denton Co., CIVENG-41-243-50-107, from T. C. Cage and Dean Skinner, Dallas Hy., Austin, **$2,002,961**. Est. $2,726,359. CD 12/6.

† **Texas**—U. S. Eng., 606 Santa Fe Bldg., Galveston, rejected bids Jan. 10, dredging Freeport Harbor, Brazosport Turning Basin, CIVENG-41-243-50-117, LB. **$107,386**. CD 1/18, under LB.



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Field of view (In minutes of arc)	64′	52′	60′
Coated optics	YES	YES	YES
Covered Leveling Screws	YES	YES	YES
Can you easily replace worn leveling screws in the field?	YES	NO	YES
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† **Texas**—U. S. Eng., 606 Santa Fe Bldg., Galveston, rejected bids Jan. 6, dredging Texas City Channel, CIVENG-41-243-50-101, LB. **$173,255**. CD 1/12, under LB.

▲† **Washington**—U. S. Eng., 4735 E. Marginal Way, Seattle, Zone 4, Jan. 18, excavation of powerhouse intake channel at Chief Joseph Dam site and relocation of 1.21 mi. State Hy. No. 10-B, adjoining the channel, Bridgeport, CIVENG-45-108-50-40, from General Constr. Co., 2840 Iowa Ave., Seattle, **$2,265,325**. Est. $2,713,194. CD 12/21.

▲† **Alaska**—U. S. Eng., 4735 E. Marginal Way, Seattle 4, Wash., Jan. 17, dredging Wrangell Narrows, CIVENG-45-108-50-35, from Puget Sound Bridge & Dredging Co., 2929 16 Ave. S. W., Seattle, Wash., **$1,034,305**. Est. $968,940. CD 11/29.

CONTRACTS AWARDED

† **Texas**—U. S. Eng., 606 Santa Fe Bldg., Galveston, dredging Houston Ship Channel from mouth Goose Creek Channel to Peggy Lake, etc., Inv. No. CIVENG-41-243-50-106, to Atlantic, Gulf & Pacific Co., 15 Park Row, New York, N. Y., **$679,503**. Bids 1/6, awarded 1/19. CD 1/12, under LB.

Tex., Corpus Christi—Heldenfels Bros., 521 McBride Lane, grading, drainage, levelling. Owner builds. **$33,000**.

AIRPORTS

BIDS ASKED

Kan., Manhattan—AIRPORT IMPRVS.—B.A. 2/7—City, City Hall, Paul Ragland, clk., runways, landing strips, incl. clearing, grading, draining, and paving, seeding graded areas and misc. work at Manhattan Municipal Airport, located approx. 7 mi. southwest of here, along U. S. Hy. 40, Proj. 9-14-022-001, Wilson & Co., 223 N. Santa Fe St. Salina, engrs. CD 2/28/49.

W. Va., Huntington—AIRPORT—B.A. 2/8—Tri-State Airport Auth., Huntington, airport. $175,000. CD 1/14/47.

† **Fla., Jacksonville**—BOILER SYSTEM—B.A. 2/9—Constr. Officer, Charleston Naval Base, P. O. Box 365, Charleston, S. C., repairs and imprvs. to steam boiler system at Cecil Field Auxiliary Air Station, near here. Extended date. CD 12/30.

† **Calif., McClellan Field**—SPRINKLER SYSTEMS, etc.—B.A. 2/16—U. S. Eng., 180 New Montgomery St., San Francisco, automatic sprinkler sys. and draft stops, Repair Docks 1, 2 and 3 in Bldg. 51; McClellan Air Force Base, Job 2966, Serial ENG-04-203-50-107.

LOW BIDDERS

Ark., Camden—RUNWAY—City, Jan. 17, 3,700 ft. runway at Camden Airport, Harrell Field, from T. L. James Constr. Co., Ruston, La. **$116,069**. CD 1/10.

Kan., Wichita—AIRPORT IMPRVS.—Boeing Airplane Co., Municipal Airport, Dec. 15, airport imprvs., Schedules A and B, from Peter Kiewit & Sons Co., 1024 Omaha Nat'l Bank Bldg., Omaha, Neb. **$879,242**. Est. $1,272,576. CD 11/18.

† **Tex., Dallas**—RUNWAYS—Bureau of Yards & Docks, Navy Dpt., c/o Comdr. Walter C. Binkley, Naval Air Station, Dallas, Jan. 17, rehabilitation North-South Runway at Hensley Field, from Texas Bitulithic Co., 111 Commerce St. **$278,994**.

CONTRACTS AWARDED

Wash., Seattle—RUNWAY—Port of Seattle, Bell St. Terminal, Zone 1, 1,400 ft. concrete north-south runway exten. to Fred Wagar & Son, Auburn, **$222,822**. Bids 1/17. CD 1/5.

PUBLIC BUILDINGS

BIDS ASKED

Ga., Cordele—COURTHOUSE, etc.—B.A. 2/7—Crisp Co. courthouse and jail. Bernard A. Webb, Bankers Insurance Bldg., Macon, archt. CD 8/12.

Ill., Galesburg—HOSPITAL IMPRVS—B.A. 2/7—State of Illinois, Springfield, general work, heating, plumbing, electrical work on rehablitating 8 ward bldgs., kitchen, dining room and shops at Galesburg State Research Hospital. $450,000.

N. Y., Clifton Springs—SCHOOL—B.A. 2/7—Bd. Educ., Central School Dist. 2, Clifton Springs, school addn. $500,000. Smith & Stickney, 154 East Ave., Rochester, archts. CD 11/4, under LB.

N. Y., Long Island City—HOUSING TOPSOIL, PLANTING—B.A. 2/7—New York City Housing Auth., 63 Park Row, New York, Zone 7, topsoil, planting for Ravenswood Houses (Proj. No. NYC 20) comprising Sect. I, in area bounded by 21 St., 34 Ave., 24 St. and 36 Ave., Queens Boro. Plans deposit $25.

N. Y., Roslyn—SCHOOL—B.A. 2/7—Bd. Educ., School Dist. 3, Roslyn, school. $275,000. Moore & Hutchins, 215 E. 37 St., New York, Zone 13, archts. CD 7/9/47.

Tex., Midland — SCHOOLS — B.A. 2/7—Frank Monroe supt. Schools, Midland 1 story, brick tile, concrete Negro High School and gymnasium. Plans deposit $15. Wyatt C. Hedrick, 1005 First Natl. Bank Bldg., Fort Worth, archt. $460,000. CD 12/29.

Ill., Oaklawn—SCHOOL—B.A. 2/8—School Dist. 111, 7828 S. LaVergne St., 2 story, 100x150 ft., concrete, brick school, Nottingham and 75 Sts., $250,000. John E. Coyle, 215 Herkimer St., Joliet, archt.

Kan., Smith Center—HOSPITAL—B.A. 2/8—Smith Co., Smith Center, hospital, $315,000. CW & J. A. Shaver, Salina, archts. CD 9/12/49.

Mich., Newberry—SERVICE—B.A. 2/8—Mich. Dpt. Admin., A.N. Langius, dir., 115 A. State Office Bldg., Lansing, 2 story, 100x140 ft. rein.-con., masonry, structural steel service bldg., Newberry State Hospital, $250,000. Plans deposit $25. CD 12/8.

N. Y., New York—HOUSING TOPSOIL, PLANTING—B.A. 2/8—New York City Housing Auth., 63 Park Row, Zone 7, topsoil, planting for Sedgwick Houses (Proj. No. NYC-14), in area bounded by proposed Cross-Bronx Expressway on the southeast, W. 174 St. on the northeast, Undercliff Ave. on the northwest, and a line on southwest running along the boundary of the proposed park (which line is approx. 300 ft. north of that portion of Washington Bridge lying between Undercliff Ave. and proposed Cross-Bronx Expressway). Plans deposit $25.

Ont., Strathroy—INSTITUTE—B.A. 2/8—G. McDonald, secy. District Collegiate Institute Bd., Box 451, Collegiate Institute addns., alterations. Approx. $275,000. Plans deposit $25. C. H Gillin, 284 Dundas St., London, archt. CD 1/10/45.

Ala., Opelika—HIGH SCHOOL—B.A 2/9—City Bd. Educ., Opelika, Northside Junior High School. Plans deposit $40. J. Paul Gilmore, Bartlett Bldg., Montgomery, archt.

Mass., Wilmington—SCHOOLS— B.A. 2/9—Town, Supt. Schools, 159 Church St., Junior and Senior High School, Roman Estate, opposite Common, $400,000. Plans deposit $15. Sturgis Assoc., Inc., 120 Boylston St., Boston, archt. **CD 6/9/49.**

N. C., Greenville—WORKSHOP, etc.—B.A. 2/9—East Carolina Teachers College, F. D. Duncan, treas. and bus. mgr., 2 story, 133,047 cu. ft. workshop and warehouse, incl. 9,028 cu. ft. pipe tunnel. Plans deposit $30. general; $20 plumbing, heting and electrical work. Eric G. Flannagan, Henderson, archt. and engr. CD 1/12.

Tex., Roanoke—HIGH SCHOOL—B.A. 2/9—Roanoke Independent School Dist., Roanoke, Northwest High School. $250,000. Wilson & Patterson, 202 Majestic Bldg., Fort Worth, archts. CD 1/9.

Ont., Orangeville — HIGH SCHOOL — B.A. 2/9 — Bd. Educ., W. C. Hopkins, secy., 1 story, 64x300 ft., L-shaped, concrete block, brick veneer high school. Approx. $375,000. J. D. Kyles, 36 James St. S. Hamilton, archt. CD 11/2.

R. I., Providence—HOUSING—B.A. 2/10—Providence Housing Auth., Joseph R. Carroll, chn., 263 Chad Brown St., five 3 story 120 family unit apartments, Proj. RI 1-3, Codding Court $800,000. Plans deposit $100. Creer, Kent, Mather, Cruise & Aldrich, 323 Industrial Trust Bldg., archts. CD 11/17.

Tex., Tyler—SCHOOL, GYMNASIUM, etc.—B.A. 2/10—Tyler Independent School Dist., Tyler, Hogg Junior High and Roberts Junior High Gymnasium, $250,000; North-west School, $275,000. Shirley Simoes, 1723 S. Broadway, archt. CD 10/5.

Man., Beausejour — HOSPITAL — B.A. 2/11 — Green, Blankstein, Russell & Assoc., archts., 310 Time Bldg., Winnipeg, hospital, for Hospital Dist. 28, L. J. Pulfer, secy. Approx. $260,000.

Miss., Greenville — COURTHOUSE, etc. — B.A. 2/13 — Washington Co., Greenville, courthouse and jail, $500,000. Extended date. CD 11/18.

Ia., Corning—POWER PLANT—B.A. 2/13—City, City Hall, power plant imprvs., incl. plant addn., diesel generating equip. $75,000. A. S. Harrington, P. O. Box 452, Omaha, Neb., engr.

Calif., Chico—ARMORY, etc.—B.A. 2/15—State Div. Architecture, P. Wks. Bldg., Sacramento, rein.-con., 20,500 sq. ft. armory and exhibit bldg. for 3rd District Agriculture Assn. Plans deposit $25. Anson Boyd, Sacramento, state archt.

Calif., San Francisco—YOUTH GUIDANCE CENTER—B.A. 2/15—Dpt. P. Wks., City Hall, (1) general contract (2) mechanical and equip. (3) electrical work, Youth Guidance Center, Phase No. 3, Spec. 774. Approx. $250,000. Plans deposit (1) $50 (2 and 3) $25. Wm. G. Merchant, 57 Post St., archt. CD 6/10/43.

▲ **N. Y., Stony Brook**—ADMINISTRATION and SCHOOL—B.A. 2/15—Stony Brook School, Chapman Blvd., administration and school bldg. $1,000,000. Plans deposit $50. F P Wiedersum, 240 Rockaway Ave., Valley Stream, archt.

Calif., San Diego—WARD, etc.—B.A. 2/20—Bd. Supervs. San Diego Co., Civic Center Bldg., six 1 story 50,000 sq. ft. rein.-con. ward bldgs. and site work at Edgemore Farm, Santee. $600,000. Warren Barney, co. engr. CD 10/31/46.

▲ **Ill., Elgin**—HIGH SCHOOL—B.A. 2/20—Elgin Bd. Educ., 353 E. Chicago St., 2 story, brick, steel, concrete North Junior High School. $1,250,000. Extended date. LeRoy Thompson, 353 Congdon St., archt. CD 1/6.

Calif., Camarillo—HOSPITAL UNITS—B.A. 2/21—State Div. Architecture, P. Wks. Bldg., Sacramento, 1 and 2 story, rein.-con. interconnected Hospital Bldg. Units F-16, F-17, F-18 and F-19, at Camarillo State Hospital. Plans deposit $25. Anson Boyd, Sacramento, state archt. CD 3/5/45.

O., Troy—SCHOOL—B.A. late in February—Bd. Educ., Troy, Kyle School, Plum and Simpson Sts. Freeman Pretzinger, Reibold Bldg., Dayton, archts. CD 11/12/47.

▲† **Location Withheld**—BUILDINGS, etc.—B.A. 2/28—U. S. Eng., 80 Lafayette St., New York 13, N. Y., misc. bldgs. and utilities, No. Eng-30-075-50-60. $1,000,000.

N. Y., Astoria—HOUSES—B.A. 2/28—New York City Housing Auth., 63 Park Row, New York, Zone 7, 12 bldgs. Sect. II, Astoria Houses. Plans deposit $75. Harrison, Abramowitz & Wiggins, 45 Rockefeller Plaza, New York, Zone 20, archts. CD 4/18/46.

† **Tenn., Oak Ridge**—DWELLINGS—B.A. 2/28—U. S. Atomic Energy Comn., P. O. Box E, Atttention, R. J. Dunbar, Engr. Div., 50 single family dwellings in Neighborhoods Nos. 1, 2, 3, and 4, Inv. No. 401-50-5A. Plans deposit $20.

N. Y., Shelter Island—SCHOOL—Bids Asked—Bd. Educ., Union Free School Dist. 2, Shelter Island, grade and high school. $250,000. Indefinitely extended date. Frederick P. Wiedersum, 240 Rockaway Ave., Valley Stream, archt. CD 12/19.

N. C., Greenville—WORKSHOP, WAREHOUSE—Bids Asked—East Carolina Teachers College, F. D. Duncan, Bus. Mgr., Greenville, 2 story 133,047 cu. ft. workshop and warehouse, approx. 9,028 cu. ft. pipe tunnel. Plans deposit $30 general. $20, plumbing, heating, electrical. Eric G. Flannagan, Henderson, archt. CD 11/28/45

LOW BIDDERS

† **Arizona** — SUBSTATION, etc. — Bureau of Reclamation, Dpt. Interior, Phoenix, Jan. 5, installing equipment and constructing Coolidge Substation, Davis Dam Proj., Spec. 2849, Schedule 1, structural work, from Arizona Sand & Rock Co., S. 7 St., Phoenix, **$344,218**, est. $419,882, Schedule 2, electrical work, from Stolte, Inc., 140 Broadway, Oakland, Calif., **$134,191**, est. $141,775. CD 12/5.

Calif., Lodi—SCHOOL—Lodi Elementary School Dist., Lodi, Jan. 17, Washington School, from A. L. Miller, 1715 7 St., Sacramento, **$499,763**. CD 12/6.

Calif., Merced—COURTHOUSE—Merced Co., Courthouse, Jan. 12, 1 story, rein.-con. courthouse, from Harris Constr. Co., Box 109, Fresno, **$281,611**. CD 12/21.

Calif., San Francisco—SCHOOL—Dpt. P. Wks., City Hall, general contract Hillcrest School, Unit 1, from Robert McCarthy Co., 1050 Kirkham St., **$527,985**. CD 12/30.

Ind., Indianapolis—SCHOOL—Bd. School Comrs., V. M. Bailey, bus dir, 150 N Meridian St., Jan. 6, general contract 1 and 2 story, irregular shaped, brick, rein.-con., School 77, from R. E. Schenck Co., 1540 N. Meridian St., **$287,781**. CD 12/21.

▲ **Md., Upper Marlboro** — HIGH SCHOOL — Prince Georges Co. Bd Educ., Jan. 17, Academic High School, Tilden St. and 56 Sts., Bladensburg, from John Tester & Son, Inc., 1427 Eye St. N. W., Wash., D. C., **$1,220,607**. CD 12/30.

▲ **Mass., Weymouth**—HOUSING—Town of Weymouth Housing Auth., Town Hall, Jan. 18, 148 unit, 2 story, bsmnt., garden apartments, East Weymouth Section, from Frankini Constr Co., Inc., 26 Mystic Ave., Medford. **$1,232,913**. CD 12/28.

Mich., Ann Arbor—SCHOOL—Bd. Educ., Ann Arbor, Jan. 4, 1 and part 2 story, T-shaped, 300x388 ft., masonry, structural steel, concrete West Side Elementary School, from Henry DeKoning Co., 1220 N. Fourth Ave., **$483,582**. CD 12/12.

▲ **Mich., Detroit**—SCHOOL—Detroit Bd. Educ., 1354 Broadway, Jan. 5, 1 story, 87x103 ft., 3 story, 92x150 ft., masonry, rein.-con., structural steel, Pershing High School addn., from Cunningham-Limp Co., 3087 W. Grand Blvd. **$1,094,000**. CD 12/23.

Mich., Detroit—SCHOOL—Bd. Educ., 1354 Broadway, Jan. 3, 2 story, 129x145 ft., T-shaped, rein.-con. masonry, Van Zile School addn., from R. E. Daily Co., 9900 Northlawn St. **$354,950**. CD 12/23.

▲ **N. Y., Newark**—INFIRMARIES—Dpt. Mental Hygiene, Albany, Zone 2, Jan. 18, general contract, infirmary bldgs. at State School, from Lasker Goldman Corp., 161 Remsen St., Brooklyn, Zone 2, **$2,547,000**; heating, from John H. Knox Co., Inc., 69 Baynes St., Buffalo, **$275,500**. CD 12/30.

Pa., Mansfield — HEATING FOR BOILERS, — Dpt. Property & Supplies, 18 and Herr Sts., Harrisburg, Jan. 18, heating for new boilers and steam distr. lines at Mansfield State Teachers College from Philadelphia Mechanical Contractors, Inc., 615 S. 24 St., Phila. Zone 46, **$96,969**. Albert C. Wood Assoc., Stock Exchange Bldg., Phila., engrs.

Tex., Austin — GENERATING UNIT — City, City Hall, Jan. 17, Contr. 17, 2 steam generating units for power plant expans., from Brown & Root, Inc., Brown Bldg., **$68,900**. Est. $100,000. CD 12/28.

Tex., Greenville—HIGH SCHOOL, etc.—Greenville Independent School Dist., Greenville, Jan. 17, high school and gymnasium, from Milo J. Choate, 1412 W. 5 St., Tyler, base bid **$510,650**. CD 12/20.

Tex., Lufkin — HIGH SCHOOL — Lufkin Independent School Dist., Lufkin, Jan. 16, masonry (Negro) Dunbar Junior-Senior High School, from Arthur Temple, Jr. & Assoc., 116 N. Cotton Square, **$254,000**. Est. $250,000. CD 12/13.

Tex., Lufkin — HIGH SCHOOL — Lufkin Independent School Dist., Lufkin, cancelled bids to have been opened Jan. 16, High School. **$265,000-$300,000**. Will re-advertise. CD 12/20.

Tex., San Ysidro (Delmita P. O.)—HIGH SCHOOL—San Ysidro Independent School Dist., Delmita, rejected bids Jan. 17, high school, L. B. **$411,000**. Will re-advertise. Cocke, Bowman & York, 1220 W. Harrison St., Harlingen, archts.

Wash., Richland—HIGH SCHOOL—School Bd., Richland, cancelled bids to have been opened Jan. 5, masonry concrete Chief Joseph Junior High School, Approx. **$250,000**. Will re-advertise. CD 12/1.

Alta., Coutts—CUSTOMS, etc—Dpt. P. Wks., Hunter Bldg., Ottawa, Ont., customs and immigration (public) bldg., from General Constr. Co. (Alberta) Ltd., 2 St. and 3 Ave., Lethbridge, Approx. **$567,900**.

(Continued on page 72)

"Hydrocrane Paid for Itself on Part Time Jobs Alone!"

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(Continued from page 70)

CONTRACTS AWARDED

Calif., Davis—RESIDENCE HALLS—Bd. Regents, University of California, Berkeley, 18 three story, rein.-con. frame residence halls, Davis Campus, to Campbell Constr. Co., 800 R. St., Sacramento. **$872,967.** Bids 1/5. CD 1/10, under LB.

Ind., Whiting — GYMNASIUM — Bd. School Trustees, Whiting School City, 1751 Oliver St., 1 story, bsmnt., 165x165 ft. steel, concrete, brick gymnasium, to Leo Rueth & Son, 1050 Cherry St., Hammond, **$447,376.** Awarded 1/4. L. Cosby Bernard, 7241 Forest St., Hammond, archt. CD 7/25/47.

Ky., Louisville—SHOP—Bd. Educ., Fifth and Hill Sts. 3 story manual training bldg. connecting with Hallack Hall, to J. D. Jennings Corp., 311 E. Barbee Ave., Zone 3, **$322,400.** Bids 1/19. CD 11/1/49.

Md., Towson—SCHOOL—Baltimore Co. Bd. Educ., Zone 4, 1 story, bsmnt., 60x258 ft., etc., brick, steel, concrete Mars Estates School, Back River Rd. and Eastern Ave., near Essex, to John K. Ruff, Inc., 100 W. 22 St., Baltimore, Zone 8, **$592,631.** CD 1/12, under LB.

▲† **N. M., Albuquerque**—LABORATORY—U. S. Eng., P. O. Box 1538, Albuquerque, Jan. 10, A-19 laboratory, Sandia Base, Serial No. 291-50-24, Items 1.0, 1.5, 1.6 and 1.7, to R. J. Daum Constr. Co., Albuquerque. **$2,691,050.** Est. $2,600,000. Bids 1/10. CD 1/18, under LB.

N. Y., East Rockaway—HIGH SCHOOL—Bd. Educ., Union Free School Dist. 19, High School Bldg., Ocean Ave., Far Rockaway, high school addn., Ocean Ave., to Berman Constr. Co., Inc., 134-34 Northern Blvd., Flushing, **$333,960.** Bids 1/6. CD 12/8.

N. Y., Oswego—INDUSTRIAL—Bureau Contracts & Accounts, Albany, Industrial Bldg. 'Bldg. 2 alterations, addns. at State Teachers College, to William E. Bouley Co., Inc., Auburn, **$535,593.** Bids 10/19. CD 11/1.

Tex., Alpine—DORMITORY, etc.—Sul Ross State Teachers College, Alpine, dormitory; fine arts, cafeteria, to Warner Constr. Co., Holcombe-Blanton Bldg., San Angelo. **$672,305.** Bids 1/9, awarded 1/16. CD 1/16, under LB.

Tex., San Marcos—LIBRARY, etc.—Southwest Texas State Teachers College, San Marcos, library, fine arts, dining hall, to Yarbrough Constr. Co., Box 851, Austin, **$711,000.** Bids 1/9. CD 1/13, under LB.

N. S., Yarmouth—HIGH SCHOOL—Consolidated Memorial High School Bd., Yarmouth, 2 story, 101x281 ft. high school, to Kenney Constr. Co., Ltd., Box 380. Approx. **$275,000.** Bids 1/12.

▲ **Ont., Eastview** — APARTMENT — Central Mortgage & Housing Corp., 395 Fleet St. W., Toronto, and Leon Petegorsky, 203 Chapel St., Ottawa, 14 two story apartments, south of Kingsview Park, to J. K. Greene, 18 Rideau St., Ottawa. Approx. **$1,000,000.**

COMMERCIAL BUILDINGS

BIDS ASKED

Conn., Stamford—CONVENT, etc.—B. A. 2/7—St. Marys Church, 366 Elm St., convent and school, $400,000. Francis L. Mayers, 2 E. 47 St., New York, N. Y., archts.

Pa., Upper Darby — CHURCH — B.A. 2/9 — Henry D. Dagit & Sons, archt., 1329 Race St., Phila., church for St. Alice's Roman Catholic Church, Copley Rd. and Walnut St. Approx. $250,000. CD 5/5/47.

Kan., Olathe—HOUSING—B.A. 2/14—Ninth Naval Dist., Great Lakes, Ill., construct, manage and finance private rental housing for Naval Air Station.

SOON LETS CONTRACT

Ala., Bessemer—OFFICE—Southern Bell Telephone Co., Hurt Bldg., Atlanta, Ga., soon lets contract, dial and toll office. Approx. $250,000. Warren, Knight & Davis, Protective Life Bldg., Birmingham, archts. CD 2/13/48.

▲ **Calif., San Mateo**—APARTMENT—De Sabia Apartment Corp., c/o Angus McSweeney, archt., 514 Mission St., San Franscico, soon lets contracts 11 story, bsmnt., rein.-con. joint apartment and garage incl. 140 units, $1,000,000.

▲**Mass., Boston**—STORE—Jordan Mārsh Co., 450 Washington St., soon lets contract, Proposals 1 and 2, 7 story, bsmnt., brick dept. store, (Unit 2), Summer St. $2,500,000. Perry-Shaw-Hepburn-Kehoe & Dean, 955 Park Sq. Bldg., archts., Maurice A. Reidy, 101 Tremont St., engr. CD 12/23.

Neb. Lincoln—MERCANTILE—Miller & Paine Inc., 13 and O Sts., soon lets contract, 5 story retail mercantile bldg., $375,000. J. C. Penney & Co., Lessee. Davis & Wilson, 225 Stuart Bldg., archts. CD 4/18/47.

O., Cleveland Heights—CHAPEL, etc.—Church of the Saviour, 3537 Lee Rd., soon lets contract, chapel and educational bldg. $300,000. CD 1/13.

Pa., Phila.—CLUB—S. Burczynski, archt., 1321 Arch St., soon lets contract, 2 story, bsmnt. club, for Polish-American Club, 2333 Fairmount Ave. Approx. **$250,000.**

Tex., Houston—CONVENT—Dominican Convent, Sacred Heart College, 6501 Almeda Rd., soon lets contract, enlarging convent, $275,000. M. J. Sullivan, 3901 Travis St., archt. Francis J. Niven, 3908 Main St., engr. CD 2/13/47.

Wash., Seattle—BANK—Seattle-First National Bank, 2 and Cherry Sts., Zone 4, soon lets contract, 1 story, bsmnt., 65x120 ft., rein.-con. branch bank, 6 and Denny St. Approx. $250,000. J. W. Maloney, Central Bldg., Zone 4, archt. CD 9/23.

Wash., Spokane—STORE—J. J. Newbury Co., 245 Fifth Ave., New York, N. Y., soon lets contract, 2 story, 60x104 ft., steel, concrete store, first unit of $1,500,000 project. G. A. Pherson & Assoc., Old National Bank Bldg. archts. CD 4/9/46.

Ont., Ottawa—STORE—Hazelgrove & Lithwick, archts., 53 Queen St., Ottawa, soon let contract, 3 story, concrete, brick stone store, for People's Credit Jewellers, Ltd., 190 Sparks St. Approx $250,000. CD 8/2.

LOW BIDDERS

▲ **Ala., Mobile**—HOSPITAL—Providence Hospital, c/o Charles H. McCauley, archt., Jackson Bldg., Birmingham, hospital, from J. P. Ewin, Inc., P. O. Box 361, **$2,452,998.** CD 12/30.

CONTRACTS AWARDED

Calif., Concord—RESIDENCES—Goforth & McGah, 247 Gregory Lane, 88 residences with garages Lots 462-549 incl., Elinora and Doris Drives, and Susan Lane, Gregory Gardens, Pleasant Hill Dist., to D. L. Goforth, 1010 Tennessee St., Vallejo. Approx. **$652,080.**

Calif., Hayward—RESIDENCES—New Madra Co., 315 13 St., Oakland, 113 residences at Collette Pl., Cardine Dr., Sorenson Dr., Luverna Dr., Laurette Pl. and Diana Pl. to Tarman & Bechtel, 315 13 St., Oakland, **$678,000.**

Calif., Long Beach—DWELLINGS—Firestone Gardens, 9434 Long Beach Blvd., 107 frame, stucco dwellings on Tracts 15409, 15494, at Orr and Day Rds., to Biltmore Homes, Inc., 9434 Long Beach Blvd., **$856,000.**

Calif., Norwalk—DWELLINGS—Pouty Junior, Inc., 548 N. Hollywood Way, Burbank, 96 frame, stucco dwellings, E. Rosecrans Blvd., S. Sylvanwood, S. Sumnar and S. Gridley Aves. Owner builds. **$538,200.** Paul Duncan, 4823 Laurel Canyon Blvd., Los Angeles, archt.

Calif., Redondo Beach—DWELLINGS—Security Constr. Co., 176 N. Martel St., Los Angeles, 76 frame, stucco dwellings, Maria Ave. between Beryl and Diamond Sts. Owner builds. **$615,000.** John R. Hallingsworth, 1647 S. Robertson Blvd., Los Angeles, archt.

Calif., Rivera—DWELLINGS—Passons Corp., 945 N. La Cienega St., Los Angeles, 100 frame, stucco dwellings in Tract 13480, to Walter Bollenbacher 945 N. La Cienega St., Los Angeles. Approx. **$550,000.** Frank W. Green, 1515 Chevy Chase St., Glendale, archt.

Calif., San Lorenzo—RESIDENCES—Ashland Homes, Inc., 1901 Foothill Blvd., San Leandro, 78 residences, Wagner, Clark Colby and Hesperian Blvds. Owner builds, **$548,250.**

▲ **Colo., Denver**—HOUSING—Commanding Officer, 5th Army, 1660 E. Hyde Park Blvd., Chicago, Ill., finance, manage and construct 200 housing units at Fitzsimmons General Hospital, to D. C. Burns Realty & Trust Co. 1536 Milton St. Approx. **$1,620,000.** CD 10/26.

▲ **Del., Wilmington** — RESIDENTIAL DEVELOPMENT — Delaware Community Homes, P. O. Box 391, residential development "Milside" Rogers Rd., separate contracts, **$6,000,000.**

Fla., Bradenton—HOMES—G. M. C. Lucas & Assoc., Bradenton, 100 homes, Owner builds. **$500,000.** CD 12/5.

Fla., Coral Gables—HOMES—Coral Dell Gardens, Inc., c/o contractor, 246 homes, to William S. Smith Constr. Co., 2295 N. W. 14 St., Miami, Approx. **$750,000.**

▲ **Ill., Chicago**—APARTMENTS—Michigan Shore Apartments, 1350 N. Lake Shore Dr., Zone 10, two 21 story, bsmnt., 90x240 ft., steel, concrete, brick apartments, on site famed Potter Palmer mansion, to S. N. Nielson Co., 3059 W. Augusta Blvd., Zone 12, **$8,683,000.** Bids 11/30, awarded 1/4. CD 11/10.

Md., Baltimore—CHURCH, etc.—Shrine of the Little Flower Church, 2800 Brandon Ave., 2 story, bsmnt., 180x142 ft., stone church, and brick, stone rectory, to John McShain, Inc., 3 W. Franklin St. Approx. **$250,000.** Bids 1/12. CD 12/29.

N. J., Princeton—STORE—F. W. Woolworth Co., Woolworth Bldg., New York 7, N. Y., store, 116-122 Nassau St., to Turner Constr. Co., 420 Lexington Ave., New York, Zone 17, N. Y., **$250,000.**

N. J., Roselle—SHOPPING CENTER—M. L. Erlich, Inc., 1 Madison Ave., New York 10, N. Y., shopping center, Wood Ave. and Raritan Rd. Owner builds. **$250,000.**

INDUSTRIAL BUILDINGS

BIDS ASKED

▲ **Mo., St. Louis**—WAREHOUSE—B.A. About 2/24—Union Electric Co. of Missouri, 315 North 12 Blvd., Zone 1, 2 story (ultimately 4 story), bsmnt., brick, rein.-con. service warehouse and office bldg., 146,000 sq. ft., 18 and Gratiot Sts. Approx. $2,000,000. Rathmann, Koelle & Carroll, 318 N. 8 St., Zone 1, archts. Wm. C. E. Becker, Ambassador Bldg., 411 N. 7 St., Zone 1, structural engr. John D. Falvey, 316 N. 8 St., Zone 1, mech. engr. CD 3/8/48.

SOON LETS CONTRACT

Ark., Newport—WAREHOUSE, etc.—Farmers Electric Co-operative, Newport, soon lets contract warehouse and office.

Tex., Houston—AUTO SERVICE, etc.—Rosenstock Motors, Inc., 1120 McKinney Ave., soon lets contract, auto service, sales, parts. $300,000. R. S. Colley, 3204 Santa Fe St., Corpus Christi, archt. R. M.

(Continued on page 75)

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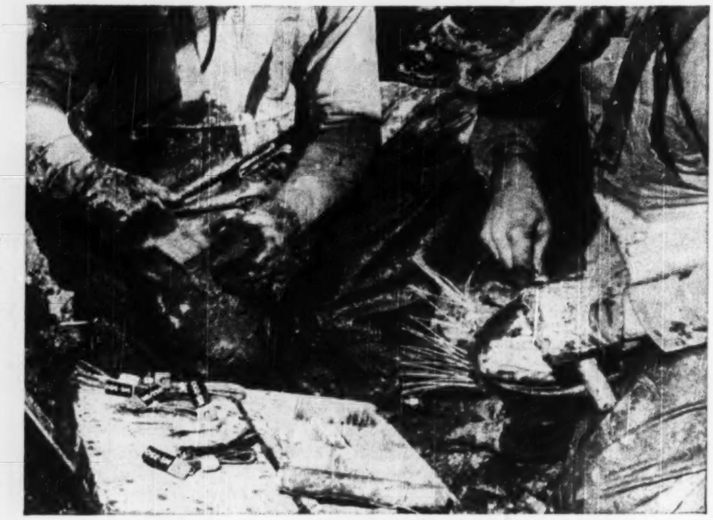

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(Continued from p. 73)

Shipman, 301 Parfand Pl., San Antonio, engr. CD 12/20.

CONTRACTS AWARDED

▲ **O., Portsmouth**—MILL—Detroit Steel Corp., 1025 8 Oakwood St., Detroit, Mich., hot roll strip mill, to Pittsburgh Engineering & Machine Co., 3-d Ave., Pittsburgh, Pa. **$10,000,000.** CD 1/19.

Ont., Ottawa—TERMINAL—Colonial Coach Lires, Ltd., 1188 Dorchester St. W., Montreal, Que., bus terminal exten., renovation, Albert St., to provide restaurant, waiting rooms, administration office, washrooms, loading platforms, etc., to James More & Sons, Ltd., 239 Argyle Ave. Approx. **$250,000.** Hazelgrove & Lithwick, 53 Queen St., Ottawa, archts. CD **1/21.**

UNCLASSIFIED

BIDS ASKED

S. C., Anderson—SWIMMING POOL—B.A. 2/6—City, swimming pool. John M. Lambert Jr., and Tedbetter & Earle, P. O. Box 761, archts.

Ark., Benton—SWIMMING POOL, etc.—B.A. 2/7—City, swimming pool and bath house. Plans deposit $15. L. A. Henry, Pyramid Bldg., Little Rock, engr.

† **Arkansas**—CEMETERIES—B.A. 2/8—U. S. Eng., 300 Broadway, Little Rock, relocating cemeteries in Boone and Marion Counties. CIVENG-03-050-50-57.

B. C., Nanaimo—BOATHOUSE, etc.—B.A. 2/8—Dpt. P. Wks., Hunter Bldg., Ottawa, Ont., boathouse and workshop at Pacific Biological Station. Approx. $75,000. Plans deposit $15. R. Blais, c/o owner, engr.

Ont., Meaford—HARBOR IMPRVS.—B.A. 2/8—Acting Secy. Dpt. P. Wks., Hunter Bldg., Ottawa, repairing east harbor wall. Approx. $30,000. Plans deposit $20. R. Blais, c/o owner, engr.

Nebraska—RURAL DISTRIBUTION LINES—B.A. 2/9—Wayne County Rural Public Power Dist., Lyle Marotz, pres., Wayne, rebuilding electrical distr. sys. in Village of Carroll, incl. new 7200/12470 volt rural distr. sys., street lighting sys. and approx. 3/4 mi. of 7200/12470 volt rural distr. line to connect with district's current distr. sys., Wayne Co. Plans deposit $10. CD 10/6/48.

Calif., Antioch—EXHIBIT BLDG—B.A. 2/15—State Div. Architecture, P. Wks. Bldg., Sacramento, 1 story, 81x180 ft., steel rigid frame exhibit bldg., for 23rd District Agricultural Assn. Plans deposit $25. Anson Boyd, Sacramento, state archt.

Pennsylvania—BATHHOUSES, etc.—B.A. 2/15—General State Auth., 18 and Herr Sts., Harrisburg, bathhouses, park shelters and more than 50 other structures for public use at Raccoon Creek State Park, Beaver Co. $160,000. Plans deposit $7.50. Pennsylvania Bureau of Construction & Engineering, 18 and Herr Sts., Harrisburg, archts.

† **Washington**—GENERATORS—B.A. 3/17—U. S. Eng., 4735 E. Marginal Way, Seattle, Zone 4, design, manufacture, delivery installation and testing of four 67,368 kva generators for Chief Joseph Dam Powerhouse, Bridgeport, CIVENG-50-51. CD 10/12, under Earthwork, etc.

LOW BIDDERS

N. Y., New York—FOUNDATIONS—Port of New York Auth., 111 8th Ave., Zone 11, Jan. 19, Contr. No. LT-7, foundations for Lincoln Tunnel connections at Port Auth. Bus Terminal, from Andrew Gull Corp., 518 Porter Ave., Brooklyn, Zone 22, **$212,753.**

Texas—RURAL DISTRIBUTION LINES—Floyd County Electric Co-operative, Inc., Floydada, Jan. 10, rural. distr. lines, Hale, Briscoe, Croaby and Swisher Counties, from South Constr. Co., Ardmore, Okla., **$250,022.** CD 5/16.

CONTRACTS AWARDED

Calif., Los Angeles—LIGHTING SYSTEM—City Council City Hall, electrolier lighting sys. in 7 and Alameda Sts., to Broadway, to State Constr. Co., 3248 Long Beach Blvd., **$54,985.** Bids 1/4, awarded 1/6.

Ill., Decatur—DRIVE-IN THEATER—Kerasotes Theatres, George Kerasotes, pres., 300 Kerasotes Bldg., Springfield, 500-car drive-in theatre, Woodward Ave. just east of their present Decatur Drive-In, separate contracts. Approx. **$200,000.**

▲† **Oregon**—HYDRAULIC TURBINES—U. S. Eng., 19 E. Poplar St., Walla Walla, Wash., four 111,300 hp. hydraulic turbines for McNary Dam Powerhouse to S. Morgan Smith Co., York, Pa., **$4,974,090.** Bids 12/6. CD 12/8 under LB.

Tex., Corpus Christi—DOCKS—Magnolia Petroleum Co., Wilson Bldg., dock, Purchase and Hire. Approx. **$55,000.**

Tex., Corpus Christi—WHARF—Southwestern Oil & Refining Co., Port and Sumners Sts. and Pontiac Refining Co., 3400 Lawrence Dr., wharf on canal incl. dredging, own forces. Approx. **$80,000.** CD 10/7.

PROPOSED PROJECTS

WATER SUPPLY

▲ **N. Y., Colonie (Br. Albany)**—Latham Water Dist., Wolf Rd., dam and reservoir at Stony Creek in Town of Clifton Park, filtration plant in town of Colonie. **$1,000,000.** Keis & Holroyd, 257 Broadway, Troy, consult. engrs. CD 10/12.

O., Delaware—City Council, Delaware, rehabilitation program at waterworks pump. station, **$162,000.**

Tex., Dallas—Hub Hill & Assoc., Andrews Bldg., c. i. watermains, facilities, on 576 acre tract between Mountain Lake Rd. and Jefferson Exten., near here **$100,000.**

Tex., Hearne—City, water supply, **$40,000;** WW distr. sys. exten., sys. rehabilitation, **$60,000.** Garrett Eng. Co., 5008 Almeda Rd., Houston, consult. engr. CD 1/16.

Tex., San Antonio—City Water Bd., 106 W. Market St., pump. station, **$75,000;** supply wells, **$90,000;** water distr. rehabilitation, **$140,000;** c. i. laterals. **$125,000;** c. i. waterlines into newly developed outlying districts, **$100,000.** W. D. Masterson, c/o owner, engr. CD 10/5/45.

SEWERS, WASTE DISPOSAL

Ky., Albany—City, City Hall, sewage disposal plant, watermain exten., sanitary sewers, **$400,000,** Maurice Miller, McDowell Bldg., Louisville, consult. engr. CD 4/15/46.

O., Cleveland—City, City Hall, Lakeside and 6 Sts., enlarging sewers from proposed Ford site to Brookpart Rd. **$100,000.** CD 11/21.

O., Euclid—City, City Hall, exten. Lilly Creek storm sewer between Crystal and Miller Aves. **$105,000.** CD 11/22/48.

▲ **O., Sandusky**—City, City Hall, plans by Jones, Henry & Schoonmaker, Security Bldg., Toledo, sewage disposal plant, intercepting and outfall sewers. **$3,025,000.** CD 8/22/44.

▲ **O., Toledo**—City, B. R. MacRitchie, Service Dir., City Hall, sewer imprvs., Homeville Dist., 24- to 48-in. line in Lockwood and Corbin St. to Belmar Ave., **$150,000;** Sewer Dist. 63, 42 to 101-in. line in Greenwood St. to E. Broadway and Navarre, to Willard, **$900,000;** Sewer Dist. 61, 60- to 120-in. line, Cheltenham and Garrison Rd., 10 mi. Creek to Berdan, **$1,300,000;** Sewer Dist. 15, 24- to 60-in. line in Morrison Dr. and 2nd to Euclid Ave. and E. Gdwy, **$100,000;** Sewer Dist. 62, 27- to 54-in. line, Kenwood and Letchworth Sts. to Hughes Ave., **$125,000;** Sewer Dist. 16, 42- to 96-in. line in Cottage-Fulton Sts., Collins-Robinwood Ave. and Winthrop St., **$800,000;** Sewer Dist. 39, 21- to 54-in. lines on Oakdale Ave. and White St. and in Fassett St. to Otter Creek, **$200,000;** Sewer dists. 5, 7 and 17, 36- to 90-in. lines in Lawrence and Miller Sts., in 22 and Division Sts. and in 11 and S. 15 Sts., **$1,000,000;** Sewer Dists. 3 and 22, 60- to 72-in. line in Elm St. from Maumee River to Page St., **$500,000.** John H. Davis, Safety Bldg., city engr. and constr. comr.

O., University Heights—City, City Hall, relief storm sewer in Edgerton Rd. between Cedar and Silsby Rds. **$175,000;** repairing existing system, **$175,000.** H. P. Peterson, city engr. CD 11/21.

Tex., Dallas—Hub Hill & Assoc., Andrews Bldg., sanitary and storm sewers, in 576 acre tract between Mountain Lake Rd. and Jefferson Exten., near here **$125,000.**

▲ **Va., Roanoke**—American Viscose Corp., Delaware Trust Bldg., Wilmington, Del., industrial waste disposal plant. **$1,000,000.**

▲ **Wis., Ashland**—City, sewers, sewage treatment plant, lift stations, **$980,000.** Greeley & Hansen, 220 S. State St., Chicago, Ill., consult. engrs.

BRIDGES

▲ **Alabama**—State Hy. Dpt., Montgomery,
Jackson Co.—bridge over Tennessee River near Stevenson **$2,000,000.** Trotter-Ernest Eng. Co., 1810 Old Shell Rd., Mobile, consult. engr.

▲ **La., New Orleans**—New Orleans R.R. Terminal Bd., c/o engrs., Gentilly and Florida grade separation, **$790,000,** G. A. Heft & Co., 820 Union St., consult engrs.; North Broad and New Orelans St. Overpass, **$720,000,** David W. Godat & Assoc., Terminal Bldg. Station, consult. engrs.

O., Euclid—City, City Hall, underpass on E. 222 St. at Nickel Plate Crossnig. Approx. **$500,000.** CD 12/17/43.

Wash., Prosser—Benton Co., Courthouse, overpass at Chaffee crossing, Whitstran, **$258,000.** C. D. Kinder, co. engr.

STREETS AND ROADS

▲ **Md., Baltimore**—City, Bureau Hys., 303 Municipal Bldg., Zone 2, Perry Parkway, Argonne Dr., to Northern Parkway, bridge and culvert. c. conc. hy., asph. over c. conc. base, **$1,000,000;** thoroughfare and bridge, Hilton St. from Dorithan Rd. to Park Heights Ave., **$1,500,000;** limited access hy., (2 contracts), from city line to Russell St., 10 in. c. conc. two 40 ft. roadways, **$1,000,000.** L. E. Greiner Co., 1201 St. Paul St., Zone 2, engr. Jas. H. McKay, 303 Municipal Bldg., Zone 2, hy. engr. CD 11/21.

▲ **Texas**—Texas Turnpike Co., c/o V. D. Bostick & Assoc., Magnolia Bldg., Dallas,
Dallas, Ellis, Navarro, Freestone, Leon, Madison, Grimes, Walker, Montgomery and Harris Counties—218 mi. highway of four 12 ft. lanes with 10 ft. parkway separating north south-bound traffic, c. conc. type, from Dallas to Houston. Approx. **$84,000,000.**

Tex., Dallas—Hub Hill & Assoc., Andrews Bldg., street constr., paving, in 576 acre tract between Mountain Lake Rd. and Jefferson Exten., near here **$100,000.**

Wash., South Bend—Pacific Co., Courthouse, clearing, draining, grading, surf. 4.5 mi. northeast from Brooklyn to county line, **$63,750;** Willapa-Smith Creek, **$50,000;** Smith-Anderson **$50,000;** surf. road from Naselle to state bridge, **$91,000;** surf. grading and ditch roads, paralleling the Naselle River and to Naselle, **$100,000;** Logan Rd., **$9,280.** CD 7/3/45.

Ont., Ridgetown—Council, Cecil Stover, chn. Bd. Wks., c. conc. paving **$100,000.** William Colby, Chatham, engr. CD 2/28/46.

EARTHWORK, WATERWAYS

New Jersey—State Water Policy & Supply Div., Trenton, completion rehabilitation of Delaware & Raritan Canal between Bound Brook and Elizabeth, Mercer, Middlesex and Hunterdon and Union Counties, $500,000-$600,000. H. T. Critchlow, ch., engr. CD 1/51/47.

† **New York**—U. S. Eng., 925 New Federal Bldg., Pittsburgh, Pa., construct Unit 2, Contr. Sect. B, of Olean Flood Protection Proj., Allegheny River, Olean, Serial No. CIVENG-36-058-50-98.

† **New York**—U. S. Eng., 925 New Federal Bldg., Pittsburgh, 19, Pa., Unit 2, Portville Flood Protection Proj., Allegheny River, Portville, Serial No. CIVENG-36-058-50-99.

AIRPORTS

N. D., Minot—AIRPORT—City, plans by Richmond & Spriggs, Grand Forks, airport development. **$398,012.** CD 9/12/47.

AMERICANS ABROAD

Australia — Victoria State Rivers & Water Supply Comn., Melborne, will take bids from international contractors for construction of 12,000,000 cu. yd. Eildon Dam, in Victoria. Bid date not yet set **$22,400,000.** CD 1/22/47.

PUBLIC BUILDINGS

▲ **Ala., Phenix City**—HOUSING—Phenix City Housing Auth., c/o Lovin D. Raines, 2443 Wynnton Rd., Columbus, Ga., 250 housing units, Approx. **$1,000,000.** CD 11/22.

▲ **Ark., Texarkana**—HOUSING UNITS—Texarkana Housing Auth., Texarkana, 400 housing units, **$4,000,000.**

Calif., Lancaster — SCHOOL — Lancaster Elementary School Dist., Lancaster, plans by H. L. Gogerty, 3123 W. 8 St., Los Angeles, school, 14 classrooms, admin. unit, 2 kindergartens, cafetorium, Approx. **$250,000.**

▲ **Calif., Norwalk** — SCHOOL — Excelsior Union High School Dist., Pioneer and Center Sts. **$1,500,000** bond election Feb. 10, school construction. CD 12/27/48.

Calif., Rivera—SCHOOL—Rivera School Dist., 140 W. Slauson St. plans by Kistner, Curtis & Wright, 816 W. 5 St., Los Angeles, Rivera School addns., administration unit, kindergarten 14 classrooms, etc. **$300,000.**

▲ **Calif., San Diego**—EDUCATIONAL—San Diego Unified School Dist., 825 Union Ave., plans by Slyde Hufbauer, 1975 5 Ave., 3 story, 100,000 sq. ft. educational bldg., Park Blvd. and El Cajon Blvd. **$1,000,000.** CD 10/29/47.

Conn., Bethel—SCHOOL—Town, Frank A. Berry, secy., School Bldg. Comn., plans by Sherwood Mills & Smith, 74 W. Park Pl., Stamford, and N. Norman Ovodow, assoc. archt. R. F. D. 2, brick, concrete school, Judd Ave. **$250,000.**

Conn., Danbury—HOUSING—City, Danbury Housing Auth., Danbury, plans by Frank LaCava, 248 Main St., Danbury, 110 single unit and garden apartment family units, Brewster-Danbury Rd. **$950,000.** CD 1/6.

Conn., Granby—SCHOOL—Town, Mrs. Paul L. Avery, chn. Bd. Educ., 10 room, brick, steel school wing, North Granby Rd. **$275,000.**

Conn., Norwalk—SCHOOL—City, Irving Freese, mayor, City Hall, 15 room brick, steel Junior High School, **$500,000.**

Conn., Norwich—HOUSING—Town of Norwich Housing Auth., Irving Sipro, chn:. plans by Cudworth & Thompson, 224 Washington St., and Sol Bernstean, 302 State St., New London, 50 frame family units, **$550,000.**

Conn., Westport—TOWN HALL—Town, Bd. Selectmen, Town Hall, brick, stone town hall. Approx **$250,000.** CD 8/10/44.

Ga., Augusta—HIGH SCHOOL—Richmond Co., plans by E. Lynn Drummond & Lyman H. Robertson, Augusta, Negro High School. Approx. **$250,000.**

Ga., Dawson—HOUSING—Dawson Housing Auth., Dawson, 75 housing units. **$350,000.**

Ga., Gainesville—HOUSING—Gainesville Housing Auth., c/o William J. J. Chase & Assoc., archts., 140 Peachtree St., Atlanta, 100 housing units, Approx. **$500,000.** CD 11/22.

Ga., Moultrie—HOUSING—Moultrie Housing Auth., c/o Abreu & Robeson, archts., 22 Marietta Street Bldg.,

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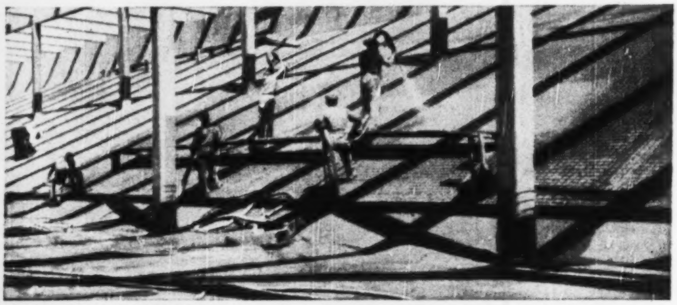

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La., DeRidder—SCHOOLS—Beauregard Parish School Bd., DeRidder, **$500,000** bond election Feb. 7, schools.

La., New Orleans—CITY HALL—City, City Hall, plans by Goldstein, Parham & Labouisse American Bank Bldg., and Favrot, Reed, Mathews & Bergman, Nola Bldg., New Orleans, city hall, Approx. **$250,000.**

Md., Baltimore—SCHOOL—City, City Hall, plans by David Harrison, 421 St. Paul Pl., Zone 2, brick, block, concrete, steel, limestone School 18 addn., Druid Park Dr. **$325,000,** Van Rensselaer Saxe, 100 W. Monument St., structural engr. Egli & Gompf, Inc., 1019 N. Calvert St., Zone 2, mech. engr. R. E. L. Williams, 410 Municipal Bldg., Zone 2, staff engr. CD 1/27/44.

Md., Catonsville—HOSPITAL—State Dpt. P. Imprvts., 506 Park Ave., Baltimore, plans by Frederic A. Fletcher, 7 E. Franklin St., Baltimore, 2,500,000 cu. ft. Old Center Bldg., Spring Grove State Hospital, Approx. **$250,000,** Turpin, Wachter & Assoc., 1004 N. Charles St., Baltimore, engrs. CD 1/18.

▲ **Md., Catonsville**—HOSPITAL—State Dpt. P. Imprvts., 506 Park Ave., Baltimore, plans by Henry Powell Hopkins, 10 E. Mulberry St., Baltimore, 3 brick, admission and convalescent bldgs., Spring Grove State Hospital, **$2,000,000.** John B. Funk, 506 Park Ave., Baltimore, ch. engr. CD 3/5/45.

Md., Owing Mills—SCHOOLS—State Dpt. P. Imprvts., 506 Park Ave., Baltimore, plans by Frederic A. Fletcher, 7 E. Franklin St., Baltimore, 1 and 2 story, masonry, gymnasium-auditorium, 1500 persons seating capacity, swimming pool, about 20 classrooms, **$450,000;** and 3 story, bsmnt. bldg. alterations, conversion to shop bldg., **$250,000,** at Rosewood State Training School, John B. Funk, 506 Park Ave., Baltimore, ch. engr.

Md., Salisbury—HOSPITAL—Peninsular General Hospital, Salisbury, plans by Jas. R. Edmunds, Jr., 130 W. Hamilton St., 3 story, brick, stone, steel, concrete, cinder block, hospital alterations, addns., **$900,000.** CD 2/18/49.

▲ **Md., Sykesville**—HOSPITAL—State Dpt. P. Imprvts., 506 Park Ave., Baltimore, kitchen, dining room for Hubner Bldg. addn., **$450,000;** 2 convalescent bldgs., Springfield State Hospital, **$1,200,000,** John B. Funk, 506 Park Ave., Baltimore, chn engr.

Md., Towson—SCHOOL—School Comrs. Baltimore Co., Zone 4, plans by Palmer Fisher, Williams & Nes, 1020 St. Paul St., 2 story, brick, cinder block, concrete, steel, Stemmers School addn. **$300,000.**

▲ **Mich., Ann Arbor** — COURTHOUSE — Bd. Supervs., Washtenau Co., Ann Arbor, **$2,300,000** bond election Apr. 3, courthouse. CD 8/1/45.

Mich., Coldwater—DETENTION—Coldwater State Home & Training Home, for Mich. Dpt. Admin., Bldg. Div. 115A, State Office Bldg., Lansing, plans by Harley, Ellington & Day, Inc., 507 Stroh Bldg., Detroit, masonry, concrete, structural steel, girl's detention bldg., boy's detention bldg., farm colony. **$680,000.** CD 6/21/49.

Mich., Kalamazoo — HOSPITAL — State, State Bldg., Lansing, plans by John Baker, State Dpt. Bldg., Lansing, Kalamazoo State Mental Hospital, **$900,000.**

Mich., Sault Ste. Marie—SCHOOL—City, City Hall, plans by Warren S. Holmes Co., 2200 Olds Tower Bldg., Lansing, Lincoln School, **$460,000.**

Minn., Austin—PLANT—City, Water & Light Bd., c/o Secy., furnishing, installing boiler, 150,000 lb. steam per hr., in municipal power plant, **$450,000,** Helmick, Edeskuty, & Lutz, 412 Essex Bldg., Minneapolis, consult. engrs.

Minn., Hopkins—SCHOOL—Blake School, Blake Rd. and Excelsior Blvd., near Hopkins, plans by Lang & Raugland, 802 Wesley Temple Bldg., Minneapolis, one 51x95 ft. steel, brick, and one 44x112 ft. steel, brick school addns., Approx. **$250,000.**

Minn., Redwood Falls—HOSPITAL—City and Hospital Bd., $195,000 bond election Feb. 7, municipal hospital, **$400,000,** C. H. Buetow, 570 North Snelling Ave., St. Paul, archt. CD 9/29/49.

▲ **Miss., Brookhaven**—HOUSING—Town of Brookhaven Housing Auth., plans by Landry & Mathes, 214 W. Pine St., Hattiesburg, 250 housing units, **$2,000,000.**

▲ **Miss., McComb**—HOUSING—McComb Housing Auth. McComb, plans by Landry & Matthes, Hattiesburg, 275 housing units. Approx. **$1,000,000.** CD 10/24.

Mont., Ennis—SCHOOL—Bd. Educ., City Hall, plans by J. G. Link & Co., 111 N. Montana St., Butte, school, **$265,000.**

Neb., Omaha—HOUSING—Omaha Housing Auth., 5529 S. 30 St., plans by Leo A. Daly Co., Insurance Bldg., 700 housing units. CD 10/4.

▲ **New York**—SCHOOLS—Bd. Educ., 110 Livingston St., Brooklyn, Zone 2, P. S. 112, vicinity 34 Ave. and 24 St., **$1,750,000;** P. S. 184, 163 St. and 21 Ave. E-686, **$1,525,000;** P. S. 188, Kingsbury and Hartland Aves., E-690, **$1,350,000;** P. S. 196, vicinity 72 Ave. and 112 St. E-715, **$350,000;** P. S. 186, vicinity Little Neck Parkway and 72 Ave., E-688, **$1,655,000,** Queens Boro. To go ahead in 1950.

▲ **N. Y., Brooklyn**—SCHOOLS—Bd. Educ., 110 Livingston St., Zone 2, P. S. 139 addn., at Cartelyou Rd. between Rugby and Argyle Rds., E-314, **$1,040,000;** P. S. 199 addn., Elm and Coney Island Aves., E-709, **$950,000;** P. S. 200 addn., Benson Ave. and Bay 22 St., E-707, **$800,000;** P. S. 251, vicinity Avenue I and E. 48 St., E-119, **$1,515,000;** P. S. 269, vicinity Glenwood Rd. and New York Ave., E-714, **$1,515,000;** P. S. 273, vicinity Mortman Ave. and Jerome St., **$1,655,000.** To go ahead in 1950.

▲† **N. Y., New York**—HOSPITAL—U. S. Eng., 80 Lafayette St., New York Zone 13, plans by Alfred Hopkins Assoc., 415 Lexington Ave., New York, Zone 17, 1,200 bed veterans hospital on site bounded by

First Ave., 23 St. Ave. A and 25 St. **$15,000,000.** Guy B. Panero, Engineers, 420 Lexington Ave., New York, Zone 17, mech. engrs. Fred N. Severud, 415 Lexington Ave., Zone 17, structural engr. A. Carl Stelling, 127 E. 39 St., Zone 16, landscape archt. CD 11/25.

▲ **O., Cincinnati**—JUNIOR HIGH SCHOOL—Bd. Educ., 216 E. 9 St., plans by C. F. Cellarius, St. Paul Bldg., 11 E. 4 St., 3 story, bsmnt., 3,000,000 cu. ft. brick, concrete Junior High School, Roselawn Station. **$3,335,000.** Fosdick & Himler, Union Trust Bldg., consult. engrs. CD 11/12/48.

O., Cincinnati—DORMITORY—University of Cincinnati, Clifton Ave., plans by Potter, Tyler & Martin, 128 E. 6 St., Zone 2, 4 story brick, concrete bsmnt., dormitory, etc. **$700,000.**

▲ **O., Dayton**—SAFETY—City, Russell E. McClure, mgr., Municipal Bldg., plans by Schenck & Williams, 3rd Natl. Bldg., Lorenz & Williams, 223 W. 1 St., and Freeman A. Pretzinger, Reibold Bldg., city safety bldg. **$1,500,000.** CD 11/28/45.

O., Ravenna — COUNTY HOME — Comrs. Portage Co. Courthouse, voted bonds, county home for aged. **$450,000.** Charles Kisler, Kent, archt. CD 9/13.

† **O., Toledo**—ARMORY—U. S. Army, The Pentagon, Wash., D. C., armory, fort 463 rd. Bn. Army Engrs., main bldg. and 2 garages, occupying 40,000 sq. ft. space. **$450,000.**

O., Toledo—SCHOOL ADDNS., etc.—Bd. Educ., Linwood and Southard Sts., plans by Britsch & Munger, Nicholas Bldg., 8 room and gymnasium Deveaux School addn., **$275,000;** plans by Bellman, Gillett & Richards, 518 Jefferson St., 8 room, Longfellow School addn., **$275,000.** CD 11/23.

Pa., Aliquippa—HOSPITAL—Aliquippa General Hospital, Aliquippa plans by Chatfield & Assoc., 324 W. Belton St., Phila., hospital, **$500,000.**

▲ **Pa., Bethlehem**—HOUSING—Bethlehem Housing Auth., City Hall, 120 unit rental housing, **$1,041,000.**

▲ **Pa., Erie**—HOUSING—Erie Housing Auth., City Hall, 200 unit rental housing. **$1,784,160.**

▲ **Pa., Johnstown**—HOUSING—Johnstown Housing Auth., City Hall, 220 unit rental housing. **$2,260,891.**

Pa., Kittanning—COURTHOUSE—Bd. Comrs. Armstrong Co., Courthouse, plans by Tillman Scheeren, Jr., Boartz Bldg., 3 story, 50x105 ft., brick courthouse annex. **$500,000.**

Pa., Uniontown—SCHOOL—School Dist. Union Twp., Uniontown, plans by Altman & Altman, 206 Derrick Ave., 2 story, brick school, South Union Twp. **$400,000.**

Tenn., Tullahoma—HOSPITAL—Coffee Co., Tullahoma, hospital. **$650,000.** CD 3/16/44.

Tex., Alamo—HOUSING—Alamo Housing Auth., Alamo, 100 low cost housing units. **$820,000.**

Tex., Athens — SCHOOL — Athens Independent School Dist., Athens, plans by Wyatt C. Hedrick, 904 Fort Worth Ave., Dallas, school. **$250,000.**

▲ **Tex., Beaumont**—ENGINEERING, etc.—Lemar State Technological College, Port Arthur Rd. and Virginia St., plans by Stone & Pitts, 1872 Calder Ave., 1 to 3 story masonry engineering, **$500,000;** laboratory, **$250,000;** classroom bldg. **$300,00;** dormitory, **$300,000.** CD 6/30.

Tex., El Paso—HIGH SCHOOL—El Paso Bd. Educ., El Paso, plans by Wm. G. Wuehrmann, 310 N. Stanton St., 14 room Thomas Jefferson High School addn. **$250,000.**

Tex., Ganado—HIGH SCHOOL etc.—Ganado Independent School Dist., Ganado, $200,000 bond election Feb. 25, high school and stadium. **$250,000.**

Tex., Hearne—LIGHT PLANT—City, electric light plant bldg. remodeling. **$110,000.** Garrett Eng. Co., 5008 Almeda Rd., Houston, engr.

Tex., Henderson—HOUSING—Henderson Housing Auth. Henderson, 100 housing units. **$820,000.**

Tex., Kilgore—HOUSING—Kilgore Housing Auth., Kilgore, 75 low-rental housing units. **$525,000.**

▲ **Tex., Pittsburg**—HOUSING—Pittsburg Housing Auth., Pittsburg, 200 housing units. **$1,640,000.**

Tex., Seymour—HOUSING—Seymour Housing Auth., Seymour, 200 housing units. **$840,000.**

▲ **Tex., Waco**—HOUSING—Waco Housing Auth., Waco, plans by Boese & Harkrider, 423 N. Main St., Fort Worth, 550 low-rental housing units. **$4,125,000.** CD 9/23.

Tex., Waxahachie — HOUSING — Waxahachie Housing Auth., Waxahachie, plans by Boese & Harkrider, 423 N. Main St., Fort Worth, 104 low-rent housing units. **$780,000.** CD 11/15.

Wash, Kennewick—HOSPITAL—City, City Hall, plans by Whitehouse & Price, Hutton Bldg., Spokane, hospital, **$350,000.**

W. Va., Fairmount—LIBRARY—Fairmont State College, Bd. Control, Charleston, plans by L. D. Schmidt, 309 Cleveland, Ave., 3 story, bsmnt., steel library, **$250,000.**

N. S., Amherst—HIGH SCHOOL—School Bd., G. P. Hennessey, supt., 15 room high school, Approx. **$300,000.**

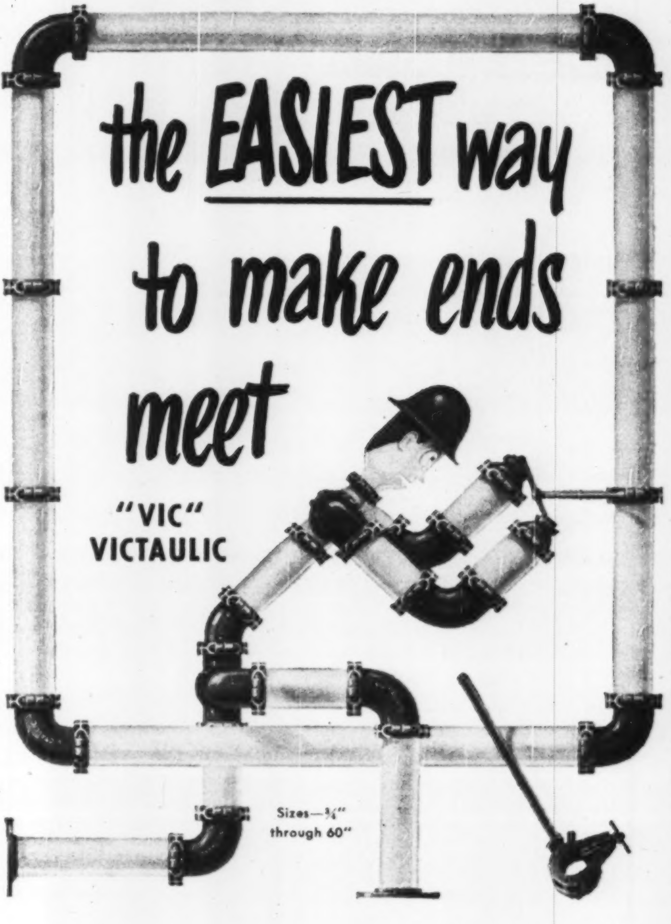
N. S., Noel—HIGH SCHOOL—Bd. School Trustees, Noel, rural high school, **$250,000.**

Ont., Cornwall—SCHOOL—School Bd., Cornwall, public school in northeast section of city, Approx. **$250,000.**

Ont., Oshawa—CITY HALL, etc.—City, M. Stare, mayor, plans by Hanks & Irwin, 2848 Bloor St. W., Toronto, city hall and police station, Approx. **$575,000.** W. T. Dempsey, c/o owner, engr. CD 11/7.

▲ **Que., Aylmer East**—HOUSES—Central Mortgage & Housing Corp., 395 Fleet St. W., Toronto, addnl. 300 houses. Approx. **$2,100,000.** A. J. E. Smith, c/o owner engr.

Que., Montreal—WAREHOUSES—Municipality, City Hall, concrete, steel, brick warehouse, Western Ave., **$250,-**



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000; concrete, steel, brick warehouse, Des Carriers St., $300,000. H. A. Gibeau, city engr.

COMMERCIAL BUILDINGS

▲ **Calif., Los Angeles**—MEMORIAL—Veterans Organizations, c/o Howard P. Hess, archt., 3806 Beverly St., Los Angeles, 5 story, rein.-con. Veterans Memorial Bldg., Wilshire Blvd., between Veteran and Gayley Aves., **$3,000,000.**

▲ **Calif., San Francisco**—MEDICAL—Franklin Medical Center Bldg., c/o Baldwin & Howell, 318 Kearny St., plans by W. D. Peugh, 333 Montgomery St., 3 story, rein.-con. medical building. **$1,000,000.**

Calif., San Francisco — OFFICE — Abraham Kahn, c/o Frank Wynkoop & Assoc., archts., 1628 Market St., 6 story, rein.-con. medical-dental office, **$400,000.**

Fla., Coral Gables—STORE, etc.—Coral-Ponce Corp., c/o Igor Polevitzsky, archt., 250 N. E. 18 St., Miami, joint store and office, **$500,000.**

Ill., Berwyn—NURSES HOME—MacNeal Memorial Hospital, 3249 S. Oak Park Ave., plans by Burnham & Hammond, 53 W. Jackson St., Chicago, Zone 4, 5 story, 56x120 ft., concrete brick nurses home, **$300,000.**

Ill., Chicago—COMMERCIAL—R. G. Lydy Parking Co., Adams and Wells Sts., plans by Ernest H. Mandel, 159 E. Chicago, Zone 11, 1 and 2 story, 45x300 ft.. commercial building, 15 stores. **$250,000.**

Md., Baltimore—RESIDENCES—Nick Campitelli, 5001 Litchfield Ave., 46 row type, 2 story, bsmnt., 16x30 ft., brick, block residences, Nelson Ave., off Garrison Blvd., **$400,000.**

Mass., Springfield—OFFICE—Springfield Fire & Marine Insurance Co., Wm. A. Herbert, 195 State St., brick, steel, concrete, insurance office bldg., on 18 acre site, State St. Approx. **$250,000.**

Minn., Hastings—HOSPITAL—Salve Regina Memorial Hospital, E. J. Savoie, chn. Bldg. Com., plans by Walter Butler Co., 1300 Minnesota Bldg., St. Paul, 2 and 3 story, 39x146 ft. community hospital, **$400,000.** Sisters of Charity, Jackson, operators. CD 1/13.

▲ **Minn., St. Paul**—OFFICE—Minnesota Mining & Mfg. Co., 900 Fauquier Ave., plans by Ellerbe & Co., E. 505 First National Bank Bldg., 5 story, bsmnt. office bldg. **$3,000,000.**

Mont., Anaconda—SCHOOL—Diocese of Helena, Helena, plans by Fox & Ballas, Missoula, parochial school, **$275,000.**

Mont., Great Falls—MEDICAL CENTER—Clinic Properties, Inc., Dr. L. L. Howard, pres., Great Falls, plans by Ellerbe & Co., E. 505 1st National Bank Bldg., St. Paul, Minn., 3 story medical center, on 5 lots, Central Ave. between 12 and 18 Sts., **$350,000.**

Mont., Scobey—HOSPITAL—Daniels Memorial Hospital, c/o Directors, Scobey, plans by J. G. Link & Co., 111 N. Montana St., Butte, hospital, **$250,000.**

▲ **O., Cincinnati**—APARTMENTS—Joseph H. Kanter & Co., 216 Empire Bldg., Birmingham, Ala., plans by Pembleton & Mims, 408 Title Guarantee Bldg., Birmingham, Ala., approx. 500 unit apartments, playgrounds, parking areas, and parks. **$3,000,000.**

O., Columbus—MEDICAL CENTER—J. F. Hardyman Co., Maysville, Ky., c/o Dr. Philip B. Hardyman, 9 Buttles Ave., plans by Tibbals, Crumley & Musson, 965 E. Broad St., 3 story 55x100 ft. brick and Georgia marble medical center. **$400,000.**

O., Dayton—HOSPITAL—Grandview Hospital, Robert Casey, pres. Bd. Trustees, 405 Grand St., 60 bed hospital addn. **$450,000.**

▲ **O., Lakewood**—APARTMENT—Robert C. Finklestein, 271 Madison Ave., New York, N. Y., 2 or 3 story bsmnt., brick, steel, 300 suite Garden type apartment, 25 unit store bldg. and parking area, Warren Rd. and Edgecliff Ave., **$3,500,000.** Sidney H. Morris & Assoc., 134 N. LaSalle St., Chicago, Ill., consult. engrs. and archts.

O., Lakewood—CHURCH—St. Lukes Church, 1212 Bunts Rd., Zone 7, plans by Roland P. Johns, 1432 Schofield Bldg., Cleveland, 1 story, bsmnt., brick, block, steel church, **$300,000.** CD 5/20.

O., North College Hill—RESIDENCES—Parr & Bufler, c/o Joseph Parr & Merlap Bufler, Marbev Dr., sixty 1 story bsmnt., brick residences. **$600,000.**

O., Sandusky—SCHOOL—St. Marys School, Rev. Joseph I. Hartmann, principal, Sandusky, expansion. St. Marys High and Grade School. **$400,000.**

O., Shaker Heights—APARTMENT—19015 S. Moreland Co., c/o Wm. Dolin, Hippodrome Bldg., Cleveland, plans by Weinberg & Teare, 1227 Schofield Bldg., Cleveland, 5 story, no bsmnt., brick, block, steel 68 suite apartment, 19015 S. Moreland Blvd., **$700,000.**

▲ **Pa., Allentown**—HOUSING—Frank A. Collins and Fred P. Meager, Chester, 199 units rental housing. **$1,793,828.**

▲ **Pa., Harrisburg**—OFFICE—Farm Bureau Co-Operative, 3607 Derry St., Paxtang, plans by William Lynch Murray, 1600 N. 2 St., 3 story 95x175 ft., 75,000 sq. ft., office. **$1,000,000.**

▲ **Pa., Harrisburg**—HOTEL—Penn-Harris Hotel, Franklin Moore, managing dir., Third and Walnut Sts., 200 room hotel addn., Third and Walnut Sts. **$2,000,000.**

Pa., Kennett Square—RESIDENCES—Owner, c/o William L. Redditt, archt., 25 Tenby Rd., Havertown, residential development. **$450,000.**

▲ **Pa., Pittsburgh**—MEDICAL, etc.—University of Pittsburgh, Forbes St., plans by Schmidt, Garden & Erikson, 104 S. Michigan Ave., Chicago, Ill., 4 story, bsmnt., stone medical bldg. De Sota St., **$3,200,000**; plans by Trautwein & Howard, 1411 Walnut St., Phila., 4 story, stone gymnasium, Forbes St., **$3,250,000.** CD 7/1/48.

S. D., Rapid City—CHURCH—First Presbyterian Church, Rapid City, plans by Lang & Raugland, Wesley Temple Bldg., Minneapolis, Minn., church. **$300,000.**

Tenn., Memphis—OFFICE—John F. Kimbrough, Jr., c/o Hulsey & Hall, archts., Sterick Bldg., 9 story office. Approx. **$500,000.**

Tex., Abilene—RESIDENCES—Dream Homes, Inc., c/o R. Thomason, Sr., Abilene, 100 frame residences, concrete post fdn., Hale sub-division, **$700,000.**

Tex., Austin—STATE MEDICAL HEADQUARTERS—State Medical Assn. of Texas, c/o Drs. G. M. Gambrell, Hardwicke & Wade, Medical Bldg., plans by Staub & Rather, 2814 Virginia St., Houston, 2 story masonry state medical headquarters and library, Lamar Blvd. and 19 St. **$500,000.**

Tex., Bellaire—DWELLINGS—L. W. Prokop, 3711 Glenhaven St., Houston, 50 frame dwellings, concrete post fdn., adjacent Westview Terrace, **$300,000**; 40 frame dwellings, concrete post fdn., off Silber Rd., **$250,000**; 60 cedar shake dwellings, concrete post fdn., off Long Point Rd., **$375,000**, all above work near here.

Tex., Borger—HOTEL—Borger Hotel Corp., O. B. Hunt, pres., Borger, 106 room hotel, incl. 16 office units, masonry constr., **$835,500.**

Tex., Dallas—DWELLINGS—Clearview Park, Inc., 2600 S. Hampton St., 39 frame dwellings, **$300,000.**

▲ **Tex., Dallas**—APARTMENTS, etc.—Paul Crum, 4418 Vandelia St., 100 units, one bedroom type, colonial brick type apartments, concrete beam fdn., near Lakewood Country Club, **$750,000**; 101 units 2 bedroom type brick apartments, concrete slab fdn., Santa Fe Ry. and Paulas Ave, **$1,000,000.**

▲ **Tex., Dallas**—MERCANTILE—Franklin Stores Corp., 1610 Elm St., mercantile. Approx. **$1,000,000.**

▲ **Tex., Dallas** — RESIDENCES — Hub Hill & Assoc., Andrews Bldg., 2,000 frame type (Negro) residences, concrete post fdn., 576 acre tract between Mountain Lake Rd. and Jefferson Extens. "Diamond Hill Addn.", **$12,000,000**; 1 story central shopping center. **$750,000**; 1 story, auxiliary shopping center Jefferson Rd., **$300,000**; 1 story, auxiliary shopping center Mountain Lake Rd. **$275,000**, near here.

Tex., Harlingen—DWELLINGS—Smith & Smith, Harlingen, 28 ranch-type dwellings, **$250,000.**

Tex., Harlingen—HOUSING—Uhlgorn & McKelvey, Harlingen, housing, **$250,000.**

Tex., Houston — EDUCATIONAL, etc. — Christ Church Cathedral, Texas and Fannin Sts., plans by Maurice J. Sullivan & L. M. Wirtz, 3901 Travis St., 2 story, steel educational, social, parish bldg., concrete fdn. **$500,000.** CD 4/11.

Tex., Houston—HOUSING—James A. Hamilton & Assoc., 3314 Morrison St., housing on 25½ acre tract, off Long Point Rd. **$250,000.**

▲ **Tex., Houston**—DWELLINGS—W. C. Perkins, 701 Gulf Bldg., 200 frame, brick, masonry dwellings, 3rd sect. of Southern Oaks sub-division, 53 acres. **$2,175,000.**

Tex., Houston—RESIDENCES—Realty Servicing Corp., 2517 Wordsworth St., 52 frame residences, concrete post fdn., in Sec. A-2, Meadowbrook, **$400,000.**

Tex., Houston—HOUSING—Shady Park Building Co., 8608 Park Ter. Blvd., housing, Shady Park addn., etc. **$250,000.**

Tex., Houston—OFFICE—Transcontinental Building Corp., c/o Transcontinental Gas Pipe Line, Corp., Oil and Gas Bldg., plans by P. E. Zimmerman, 500 Stuart St., 3 to 4 story (ultimately 15 story) 60,000 sq. ft. masonry, concrete, steel office, concrete fdn., air-conditioning, Travis and Milam Sts., **$850,000.** Hollis U. Bible, 500 Stuart St., consult. engr.

Tex., Waco—Y. W. C. A. BLDG.—Young Women's Christian Assn., H. Hambleton, pres., 1503 Austin St., Y. W. C. A. bldg., **$250,000.**

Wyo., Casper—OFFICE, etc.—Casper Lodge No. 22, IOOF, Casper, plans by Goodrich & Wilking, 226 E. 2 St., office and lodge building, **$250,000.** CD 1/6.

▲ **Alta., Edmonton**—CATHEDRAL—Church of England in Canada, Rt. Rev. W. F. Barfoot, 10416 131 St., cathedral, 103 St. south of Jasper St. Approx. **$1,000,000.**

Ont., Ajax—CHURCH—Church of England in Canada, 135 Adelaide St., Toronto, church.

Ont., Oshawa — CHURCH, etc. — Northminister United Church, Rev. A. M. Irwin, minister, plans by G. S. Adamson, 906 Yonge St., Toronto, church and Sunday school, Simcoe St. N. and Arlington Ave. Approx. **$250,000.**

Que., Three Rivers—STORE—Zellers Ltd., 230 Des Forges St., plans by Schulte Unified Properties, Ltd., c/o owner, departmental store, **$400,000.**

INDUSTRIAL BUILDINGS

Calif., San Leandro—FACTORY—Golden Grain Macaroni Co., 982 Bryant St., San Francisco, 1 story, 58,000 sq. ft., concrete, masonry factory, **$500,000.** Myron C. Gould & Assoc., 149 New Montgomery St., San Francisco, consult. engrs. CD 12/29.

Ga., Savannah—PLANT IMPRVS.—Tetley Tea Co., Inc., 483 Greenwich St., New York, N. Y., plant impvs. Approx. **$100,000.**

▲ **Ind., Gary**—PLANT—Budd Co., Chase St., Industrial Hy., plans by Giffels & Vallet, 1000 Marquette Bldg., Detroit, Mich., 250,000 sq. ft. mfg. plant (1st unit), 140 acre site. **$3,000,000.**

Miss., Pascagoula—FISH CANNERY—Owner, c/o W. R. Guest, pres., Pascagoula Port Comn., fish cannery, **$300,000.**

O., Elyria — PLANT — Chronicle-Telegram Publishing Co., 329 Second St., newspaper publishing plant, East Ave., Third and Temple Sts. **$150,000.** R. W. Dickerson, 2063 Fourth St., Cleveland, consult. engr.

Ore., North Bend—SAWMILL—Weyerhaeuser Timber Co., North Bend, sawmill. **$907,000.** D. H. Hilliard, c/o owner, engr.

Tex., Agua Dulce—PLANT—Agua Dulce Co-operative Assoc., Agua Dulce, grain dryer plant and grain storage warehouse. **$100,000.**

▲ **Tex., Beaumont**—REFINERY—Socony-Vacuum Oil Co., Beaumont, replacing 3 catalytic cracking units at refinery. **$2,500,000.**

▲ **Wash., Camas**—RECOVERY PLANT—Crown-Zellerbach Corp., Camas, recovery plant, **$6,000,000.**

▲ **Wash., Everett**—RECOVERY PLANT—Soundview Pulp Co., Everett, recovery plant. **$6,000,000.**

▲ **Wash., Everett**—RECOVERY PLANT—Weyerheauser Timber Co., Tacoma Bldg., Tacoma, recovery plant. **$4,000,000.**

▲ **Wash., Hoquiam**—RECOVERY PLANT—Rayonier, Inc., Shelton recovery plant, **$2,500,000.**

N. B., Moncton—WAREHOUSE—Sussex Ginger Ale Ltd., 55 Queen St., warehouse, **$125,000.**

UNCLASSIFIED

▲ **California**—PIPE LINE—Southern California Gas Co. and Southern Counties Gas Co., 810 S. Flower St., Los Angeles, 82 mi. 30 in. steel pipe line from Puente in Los Angeles Co. easterly via Riverside, Beaumont, Banning, to juncture with existing line from Texas near Whitewater Gas Transmission Line, Los Angeles and Riverside Counties. **$6,000,000.** M. Binsley, c/o owner, engr.

Conn., Storrs—FIELD HOUSE, etc.—State, Raymond S. Thatcher, comptroller, State Capitol, Hartford, plans by F. C. Teich, 252 Asylum St., Hartford, brick, steel, concrete field house, **$800,000**; rein.-con. 60 tier grandstand, football stadium 15 tier temporary bleachers, radio booth and press box glass enclosed **$500,000**, both at University of Connecticut. CD 1/19/49.

Ia., Des Moines—SWIMMING POOL—Des Moines Park Bd., City Hall, swimming pool, **$125,000.**

La., Jonesboro—PARK IMPRVS.—City, City Hall, Tremont Park imprvs. **$135,000**, Smith & Padgett, Monroe, archts.

▲ **Nev., Las Vegas**—RACE TRACK, etc.—Las Vegas Thoroughbred Racing Assoc., Joseph Smoot, pres., 900 S. 5 St., Las Vegas, plans by Arthur Froehlich, 383 S. Robertson, Los Angeles, Calif., and Richard Stadelman, 114 N. 3 St., Las Vegas, Nev., race track and facilities, grandstand, clubhouse, stables, etc. Approx. **$1,000,000.** Paul R. Williams, 3757 Wilshire Blvd., Los Angeles, Calif. CD 12/26/46.

▲ **N. C., Wilmington**—PORT IMPROVEMENTS—State Ports Auth., c/o Robert & Co. Assoc., engrs., 96 Poplar St. N. W. Atlanta, Ga., port imprvs. Approx. **$1,000,000.**

North Dakota—RURAL DISTRIBUTION LINES—James Valley Electric Co-operative, Edgeley, rural distr. lines, La Moure Co. **$1,075,000.** Scott Eng. Co., Watertown, S. D., engr.

O., Warren—MUSIC HALL—Bd. Trustees, Packard Park, T. S. McElrath, pres., Warren, plans by Arthur Sidells & Keich & O'Brien, Warren, music hall, in Packard Park. **$700,000.** CD 10/5.

Pa., Pottstown—FIELD HOUSE—Hill School, Pottstown, field house. **$250,000.**

Texas—TRANSMISSION LINES—Central Power & Light Co., 120 N. Chaparral St., Corpus Christi, 7 mi. 12,000 volt electric transmission line between Noth Pharr and Edinburg, **$50,000**; 12,000 volt electric transmission lines across Arroyo Colorado to Rio Hondo, **$50,000**; 25 mi. 12,000 volt electric transmission line between Raymondville and Port Mansfield at Redfish Bay, **$150,000.** A. B. Weaver, c/o owner, engr.

Tex., Brownsville—RESORT, etc.—Cameron Co., Comrs. Court, Brownsville, Site No. 1, Padre Island Resort, playgrounds, park, **$850,000.** Parsons, Brinckerhoff Hall & MacDonald, 51 Broadway, New York, N. Y., consult. engrs.

Tex., Houston—DRIVE-IN THEATRE—Jack Farr, Bryan, 750-auto capacity drive-in theatre, off Old Spanish Trail Rd. **$250,000.**

Tex., San Antonio—TRANSFORMER STATION, etc.—City Public Service Bd., 201 N. St. Marys St., transformer station, **$150,000**; electric lines into outlying newly-developed areas, **$100,000**; rehabilitation electric lighting sys., underground and overhead lines, **$250,000**; gas booster station units, **$125,000**; gas line rehabilitation at required areas throughout city, **$175,000**; new gas lines into outlying new-developed areas, **$200,000.**

Tex., San Antonio—SKATING RINK—C. H. Treadwell, 532 Gunter Hotel, skating rink, rein.-con. fdn., grading work. **$100,000.** Wm. Orrison, 215 Travis Bldg., consult. engr.

N. B., Campbelltown—MEMORIAL RINK—Property Holders Assn., Campbellton, war memorial rink, **$235,000.**

Que., Quebec City—CITADEL PROMENADE RENOVATION—City, F. X. Choumard, city clk., renovation citadel promenade. Approx. **$320,000.** E. Hamel, c/o owner, engr.

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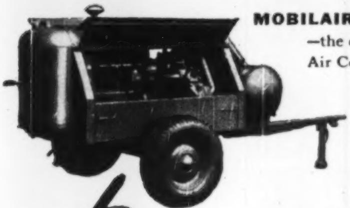

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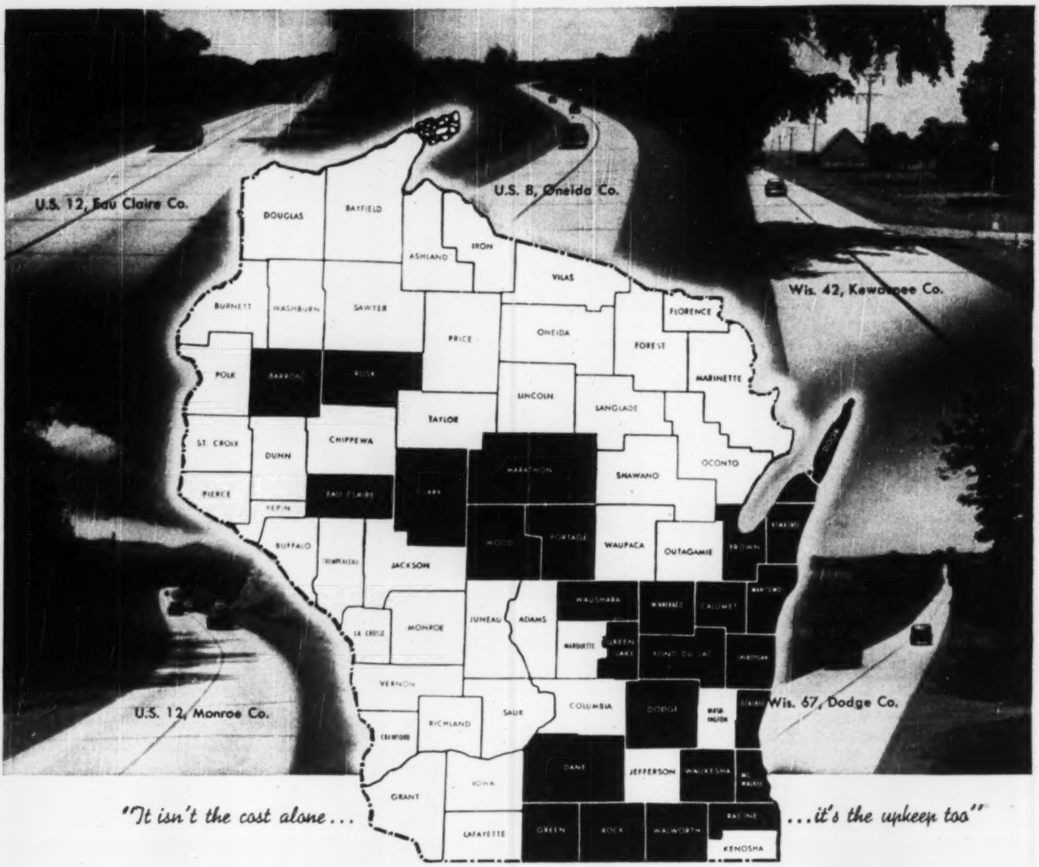
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Wis. 42, Kewaunee Co.
U.S. 12, Monroe Co.
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CONSTRUCTION REPORTS-Second Section

WATER SUPPLY

BIDS ASKED

Md., Towson—B.A. 2/6—Comrs. Baltimore Co. Court House, Zone 4, Contr. 200-D. S. & W., 23,485 lin. ft. 6- to 16-in. c.i. pipe, 284 meter vaults, 6,268 lin. ft. water house connections; 510 lin. ft. 5 and 6 in. c.i. sewers, 13,519 lin. ft. 6- to 12-in. vitr. clay sewers, manholes, etc.; 4,723 lin. ft. 15- to 36-in. rein.-con. pipe inlets, manholes, etc. Plans deposit $5, Wm. F. Neale, Court House, ch. engr.

† **Mich., Fort Custer**—B.A. 2/7—Veterans Admin., Vermont Ave. between H and I Sts. N. W., Wash. 25, D. C., addn. water supply, incl. meter, meter pit, underground water main, etc., for Veterans Admin. Hospital, Fort Custer, Spec. 4974. CD 12/16.

Tex., Albany—B.A. 2/9—City, 1 m. g. steel ground storage type water storage tank. $30,000. F. J. Von Zuben, 1606 Mistletoe Blvd., Fort Worth, engr.

N. Y., Rochester—B.A. 2/14—Fred W. Ereth, purch. agt. City Hall, No. 20 S. Fitzhugh St., 47,380 lin. ft. 24- to 48-in. pipe and fittings for addnl. water supply. Plans deposit $25; adv. ENR 2/2. CD 1/17/44.

LOW BIDDERS

Calif., El Segundo—City Council, 203 Richmond Ave., Jan. 18, 3 m.g. rein.-con. reservoir, pump house pipe lines, etc., from J. E. Burrell & Sons, 522 Shanock Ave., Long Beach, **$138,000**. CD 12/29.

Calif., Encinitas—San Dieguito Irrigation Distr., 669 Second St., Jan. 19, 40,000 ft. 27 and 30 in. rein.-con. pipe line from San Dieguito Reservoir to Encinitas, Schedules A and B, from Beason & Taylor, 1010 Parkway, El Monte, and Heisler, Hopper, Woods, 229 S. Hoyt St., El Monte, **$92,749** and **$110,241** respectively***Schedule C, Part I, from Cannell & Losch, 8052 E. Center St., Paramount, **$116,855***** Schedule C, Part II, from American Pipe & Constr. Co., 4635 Firestone Blvd., South Gate, **$39,720.** CD 1/10.

La., Lockport—Town, Town Hall, Jan. 17, WW imprvs., incl. treatment plant, from Clarence Albert, 117 Elm St., Thibodaux, **$60,526**; water main exten., from W. D. Owens Constr. Co., 332 First Nat'l Bank Bldg., Montgomery, Ala., **$38,795**. CD 12/30.

Tenn., Nashville—City, City Hall, various water mains from Bush Building Co., 805 8 Ave. N., **$44,260**. CD 1/17.

Tex., Galveston—Galveston County Water Control & Imprvt. Dist. 1, Dickinson, Jan. 12, WW imprvs., from Gerald Mora, 312 Sabine St., Houston, **$28,000**. CD 12/20.

CONTRACTS AWARDED

Fla., Jacksonville Beach—City, City Hall, water softening plant, Part A, to J. W. Meadors, 1036 W. Hollywood Ave., Jacksonville, Zone 5, **$130,300**; Part B, to Girvin & White, 1226 W. Forsyth St., Jacksonville, Zone 4, **$34,560**. Bids 11/21, awarded 1/19. CD 10/12.

O., Alliance—City, City Hall, WW imprvs., present site to Dravo Corp., 4810 Prospect Ave., Cleveland, **$69,960**. Est. $70,000. Bids 12/23; awarded 1/18. CD 12/6.

Tex., Beaumont—Gaylynn Apartment Corp., 800 Main St., Houston, water lines, facilities, own forces. **$33,000**. CD 1/11.

Tex., Houston—Jack Forman, 2715 Wheeler St., c.i. water lines, facilities, own forces. Approx. **$35,000.**

Tex., Port Arthur—De Coux & Plessala Realty Co., Port Arthur, water lines, own forces. Approx. **$30,000.**

Wis., Lancaster—City, elevated water tank, to Chicago Bridge & Iron Co., 332 S. Michigan St., Chicago, Ill. Bids 12/13. CD 11/29.

Ont., London—General Motors Diesel Ltd., London, 100,000 gal. gravity tank, to Horton Steel Works Ltd., 40 Jennet St., Fort Erie. Approx. **$35,000.**

SEWERS, WASTE DISPOSAL

BIDS ASKED

N. Y., Yonkers—B.A. 2/20—At office Frank Van Blarcom, secy. Bd. Contract & Supply, City Hall, house sewer in Sunnybrook Sect. One between Palmer Rd. and Central Park Ave. Plans deposit $10; adv. ENR 2/9. CD 12/15/44.

▲ **Mich., Port Huron**—B.A. 2/27—City, City Hall, 21,000 ft. 8- to 54-in. sewers, 2 river crossings, sewage and garbage treatment plant, 13 sewage pumps, 2 sewage pump. stations, gas holder, rubber lined tank, water tank, garbage can washer, equip. $1,600,000, Drury, McNamee & Porter, Ann Arbor, engrs. CD 11/21/44.

Tex., Houston—Bids Asked—J. S. Norman Co., 4815 Richmond Rd., sanitary sewers off Long Point Rd. $60,000. Hilton & Coulson, 3821 Fannie St., engrs.

LOW BIDDERS

O., Cleveland—City, City Hall, Lakeside and 6 Sts., Jan. 19, sanitary sewer tunnel on Greyton Rd. from Puritas Rd. approx. 1,840 ft. south, from Lake City Constr. Co., 3175 Ludlow Blvd., **$103,490**. Est. $106,500.

Ore., Oceanlake—City, City Hall, rejected bids Jan. 18, sewage treatment plant, LB. **$51,567**. Will re-advertise. CD 12/28.

Pa., Phila.—Dpt. P. Wks., City Hall Annex, Dec. 30, grading, paving, stormwater drainage, etc., Northeast Treatment Works, Contr. SD 142 NE, from Samuel Glasgow, 2625 Church Rd., Glenside, **$110,586.** CD 12/22.

R. I., Providence—State of Rhode Island, and Providence Plantations, Blackstone Valley Sewer Dist. Comn., Purch. Agent, State House, Jan. 20, Contr. 14, Sect. B, interceptor force mains, from G. I. Wyner Co., Inc., 12 Newland St., Malden, Mass., **$95,557**. CD 1/11.

Tex., Fort Worth—City, W. O. Jones, mgr., City Hall, Jan. 19, Beech St. storm sewers, from Lewis & Lewis, 205 Page St., **$68,273**. Est. $65,000. CD 1/11.

CONTRACTS AWARDED

Kan., Olathe—Mission Twp., Johnson Co., Olathe, lateral sewers, Dist. 35, to Griffin Constr. Co., Merriam, **$52,068**. Bids 1/9. Wm. Spann, 1207 Grand Ave., Kansas City, Mo., engr. CD 11/25/49.

N. D., Bottineau—City, sewage disposal plant, to J. J. Nagel, Perham, Minn., **$72,893**. CD 10/5.

Tenn., Memphis—City, City Hall, exten. sanitary sewer service for 19 sq. mi. new territory to be annexed Feb. 1, to Pardue & Humphries, 3556 Chelsea St., **$68,805.**

Tex., Beaumont—Gaylynn Apartment Corp., 800 Main St., Houston, sanitary sewers, own forces. Approx. **$50,000**. CD 1/11.

Tex., Dallas—Caruth Corp., c/o W. W. Caruth, Jr., 5803 Greenville St., sanitary and storms sewers, own forces. Approx. **$55,000.**

Tex., Houston—Jack Forman, 2715 Wheeler St., sanitary and storm sewers, own forces. **$58,000.**

Tex., Port Arthur—DeCoux & Plessala Realty Co., Port Arthur, sanitary and storm sewers, own forces. Approx. **$65,000.**

Wash., Connell—Town, Town Hall, sewage treatment plant, to P. S. Lord, Mechanical Contractors, 4507 S. E. Milwaukee St., Portlnd, Ore., **$69,095**. Bids 1/18.

BRIDGES

BIDS ASKED

STATE HIGHWAY LETTINGS

February 7
Ohio
February 14
Texas

February 15
Texas
March 1
New York

Wis., Watertown—B.A. 2/18—City, 2nd St. Bridge incl. five 60 ft. spans, 24 ft. roadway, two 5 ft. sidewalks, concrete piers, abutments, approaches, steel girder over Rock River, $120,000. Plans deposit $5. Charles S. Whitney, 724 E. Mason St., Milwaukee, Zone 2, engr.

New Jersey and Pennsylvania—B.A. 2/20—At office Joseph K. Costello, secy. Delaware River Joint Comn., Administration Bldg., Bridge Plaza, Camden, N. J., reconstruct existing expansion dams and resurf. six interior lanes of roadway on Philadelphia and Camden approaches of Delaware River Bridge between Phila., Pa., and Camden, N. J., Constr. 7. Plans deposit $10; adv. ENR 2/2. CD 2/4/49.

† **N. Y. Montour Falls**—B.A. 2/24—U. S. Eng., Niagara and Bridge Sts., Buffalo, Zone 7, wid'n. Pennsylvania R. R. Bridge, Shequaga Creek, Serial No. CIVENG-30-023-50-26. CD 1/20.

Tex., Rio Grande City—Bids Asked—Gue Guerra & Assoc., Rio Grande City, toll vehicle and pedestrian bridge across Rio Grande River. $200,000. J. W. Beretta, Engineers, Milam Bldg., San Antonio, engrs. CD 6/23/48.

LOW BIDDERS

D. C., Wash.—Dist. Comrs., District Bldg., paving D. C. approach roadways, 14 St. crossing over Potomac River (new 14 St. Bridge) from Highway Contr. Co., P. O. Box 4437, Zone 17, **$94,892**; paving underpass roadway of DuPont Circle N. W., from Curtin & Johnson, Inc., 1125 Brentwood Rd. N. E., $77,257.

Illinois—State Div. Hys., Springfield, Jan. 20, substructure, concrete floor and erecting structural steel for grade separation on Ill. Route 99, Wilmette, Cook Co., from Thos. McQueen Co., 1313 S. Circle Ave., Forest Park, **$78,851*****substructure concrete floor and erecting structural steel for grade separation on Ill. Route 99 Morton Grove, Skokie and Wilmette, Cook Co., from Leninger Const. Co., 30 N. LaSalle St., Chicago, Zone 2, **$234,098*****furnishing structural steel for 4 grade separations on Ill. Route 99, Skokie, Wilmette, Morton Grove, Cook Co. from American Bridge Co., 208 S. LaSalle St., Chicago, Zone 4, **$139,700**. CD 1/5.

Massachusetts—Commonwealth of Mass., Dpt. P. Wks., 100 Nashua St., Boston, Dec. 6, reconstr. bridge, Park Drive, Boston, from A. Singarella & Son, 22A Tremlett St., Dorchester. **$83,755**. CD 11/25.

Massachusetts—Commonwealth of Mass., Boston, Jan. 10, steel Stringer bridge, approaches, SG-73 (1), Lincoln, from F. E. Daddario Corp., 73 Tremont St., Boston, **$121,148**. CD 12/30.

CONTRACTS AWARDED

South Carolina—State Hy. Dpt., Columbia, rein.-con. decks for steel spans and two 30 ft. rein.-con. superstructures of bridges over North and South Santee Rivers between Georgetown and McClellanville F-39 (7), Charleston and Georgetown Counties, and rein.-con. piers and bents for Blossom Street Bridge over Congaree River at Columbia, U-2570 (1), Lexington and Richland Counties, to Joseph W. Barnwell, Jr., 2206 Terrace Way, Columbia, **$98,421** and **$242,082** respectively. Bids 1/17, awarded 1/19. CD 1/9.

STREETS AND ROADS

BIDS ASKED

STATE HIGHWAY LETTINGS

February 7
Ohio
February 9
Knsas
February 20
Kansas
Pennsylvania
February 14
Massachusetts
Texas
Virginia

February 15
California
Texas
February 16
New Jersey
February 22
Louisiana
March 1
New York

Calif., San Diego—B.A. 2/21—City Council, Civic Center, hy. and bridge constr. Wabash and Federal Blvds., approx. $50,000, Alden K. Fogg, city engr. CD 12/6/44.

Tex., Houston—Bids Asked—J. S. Norman Co., 4815 Richmond Rd., street constr., paving, off Long Point Rd. $50,000. Hilton & Coulson, 3821 Fannin St., engrs.

LOW BIDDERS

Illinois—State Div. Hys., Springfield, from W. J. Sheppard & Co., 1412 Altgeld St., Chicago, Zone 4, c. conc. 0.29 mi. on approaches to grade separation on Ill. Route 99, Morton Grove, Cook Co., **$100,850**; bit. on crushed stone surf. 0.26 mi. on approaches to grade separation on Ill. Rt. 99, Skokie and Morton Grove, Cook Co., **$76,748**; c. conc. 0.27 mi. on grade separation on Ill. Route 99, Skokie and Morton Grove, Cook Co., **$76,140*****from Leninger Constr. Co., 30 N. La Salle St., Chicago, Zone 2, c. conc. 0.28 mi. 4 ft. concrete medium on approaches to grade separation of Ill. Route 99, Wilmette Cook Co., **$163,151***** from McCann & Co., Inc., 1708 S. Lincoln Ave., Springfield, grav. or crushed stone base 4.46 mi. Ill. Route 810, Jefferson Co., **$67,488**. CD 1/9.

Ill., Chicago—City, City Hall, Zone 2, Jan. 20, paving Morgan St. from W. Pershing Rd. to W. 31 St., from Rock Roads Constr. Co., 5915 N. Rogers St., Zone 26, **$283,980**; paving Southport Ave. from Diversey Park Blvd. to Roscoe St., from W. J. Sheppard & Co., 1412 Atlgeld St., Zone 14, **$244,142**. CD 1/13.

La., Lake Charles—City, City Hall, Jan. 18, 14,180 sq. yd. c. conc. paving, 41,440 sq. yd. sidewalks, from R. E. Heidt Constr. Co., 2 St., **$78,209**. CD 1/5.

Massachusetts—Commonwealth of Mass., Dpt. P. Wks., Boston, Dec. 13, hy. and bridge constr., Federal Aid Proj. F.A.S. 88(1), Deerfield, from Warner Bros., Inc., Sunderland, **$143,731**. CD 12/1/49.

▲ **Minnesota**—State Hy. Dpt., St. Paul, Jan. 13, c. conc. 88,613 sq. yd. S. P. 3508-10 and S.P. 3509-03 (TH 75-6), F 332 (8), from Central States Constr. Co., Crosby, **$391,624*****c. conc. 133,839 sq. yd. S.P. 2803-17 (TH-44-44), S.P. 2804-08 (TH 44-44) and S.P. 2804-09 (TH 44-44) F 331 (3) and F 147 (10), from Woodrich Constr. Co., Hopkins, **$402,507***** plant-mixed bit. wearing surf. 25.3 mi. S.P. 2609-12 (TH 55-142), S.P. 2107-03 (TH 55-142), S.P. 6107-03 (TH 55-142), S.P. 6108-06 (TH 55-142) S.P. 6103-04 (TH 28-28), and S.P. 6194-01 (TH 28-29) F 495 (17) and plant mixed wearing surf. 12.7 mi., S. P. 6802-04 (TH 11-11) and S.P. 6803-06 (TH 11-11) F 413 (8), from Megarry Bros., St. Cloud, **$184,793** and **$76,340** respectively***grading 11.8 mi. S.P. 7505-01 (TH 59-144), from Ose Bros., Thief River Falls, **$130,366*****grav. base and plant mixed bit. surf., 6.5 mi. S.P. 6602-04, (TH 19-100) and S.P. 6603-14 (TH 19-100), from H. Ganley, Inc., 2336 Hampden Ave., St. Paul, **$81,399**. CD 12/30.

CONTRACTS AWARDED

† **California**—Bureau Pub. Roads, Dpt. Commerce, 180 New Montgomery St., San Francisco, hy. imprv. 1.763 mi. Mill Creek, San Bernardino Co., to Clifford C. Bong, 6 N. 1 Ave., Arcadia, **$726,539**. Bids 12/13. CD 12/20, under LB.

Calif., Norwalk—Panty Junior, Inc., 548½ N. Hollywood Way, Burbank, streets, sidewalks, curbs, gutters, Tract 16200, to H. & H. Eng. Co., 3708 Radnor St., Long Beach, **$50,000**.

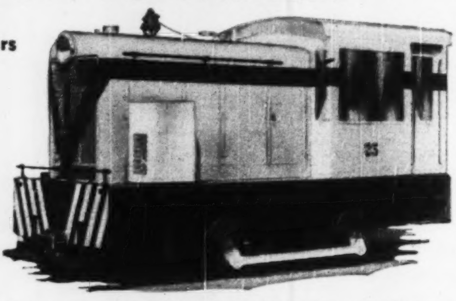
Ga., Cuthbert—City, street imprvs., to Coffee Constr. Co., Eastman. Approx. **$50,000**. Bids 12/2. CD 11/21.

Massachusetts—Commonwealth of Mass., Dpt. P. Wks., 100 Nashua St., Boston, hy. and bridge constr. U-214(2), Lowell, to Coleman Bros. Corp., 40 Central St., Boston, **$882,289**. Bids 11/29, awarded 12/6, CD 12/8, under LB.

Okla., Oklahoma City—City, grading, c. conc. in Street Imprvt. Dist. 1106, to M. A. Swatek & Co., Hightower Bldg., Oklahoma City, **$74,428**, Est. $76,501. Awarded 1/17. CD 12/21.

▲ **Pennsylvania**—Pennsylvania Turnpike Comn., 11 N. 4 St., Harrisburg, grading, structures, drainage, paving 4.12 mi. Sec. 31-D, Western exten. of Turnpike from point approx. 2,000 ft. west of Beatty Rd. in Patton Twp. to point approx. 930 ft. west of Allegheny-Westmoreland Co. line, Allegheny and Westmoreland Counties, to Ralph Myers Contg. Co., Salem, Ind., **$3,068,107** ***grading, structures, drainage, paving 3.24 mi. Sec. 31-E, Western exten. of Turnpike from point approx. 830 ft. east of Allegheny—Westmoreland Co. line, approx. 3,800 ft. west of T.R. 180, Westmoreland Co. to Pavia Co., Verona, **$1,398,904**. Bids 1/4. CD 1/9, under LB.

Pennsylvania—State Hy. Dpt., Harrisburg, rein.-con. paving 22 ft. wide, 6.31 mi., construct 4 rein.-con. structures, bit. surf. crushed stone base 14 ft. wide,



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BOSTON • CINCINNATI • NEW ORLEANS

T. R. 41, U. S. 122, West Fallowfield, Londonderry and London Grove Twps., Chester Co., to James D. Morrissey, Inc., 9119 Frankford Ave., Phila., **$820,814.** Bids 1/13. CD 1/17, under LB.

South Carolina—State Hy. Dpt., Columbia, grading, surf. 14.66 mi. Roads 45, 93, 24, 39 and Route 37, S-362 (1), Allendale Co., and grading, surf. 8.318 mi. Roads 39, 133, 134 and 1511 through 610 near Kline and Barnwell S-288 (1), Barnwell Co., to W. L. Cobb Constr. Co., Decatur, Ga., **$107,638** and **$61,808** respectively***grading, surf. 5.627 mi. Roads 76 and 75 S-406 (1) and S-406 (2), Chester Co. and grading, surf. 11.045 mi. Roads 157 54, 78 and 37, S-462 (1) and S-321 (1), Lexington Co., to Cherokee, Inc., Sumter Hy., Columbia, **$56,842** and **$91,031** respectively***grading, surf. 9.939 mi. Roads 32, 77 and 78, S-352 (1), Laurens Co., and grading surf. 8.495 mi. Road 28 from Road 33, northerly to Route 22 S-358 (1), Newberry Co., to Scotts & Co., Newberry **$88,402** and **$65,389** respectively***grading, surf. 7.949 mi. Roads 119, 172, 173, 49 and 84, S-346 (1), Anderson Co., to Harold A. Pickens Constr. Co., Anderson, **$68,396*****grading, surf. 703 mi. Roads 18 and 38 from Eloree northerly to near Lone Star, S-383 (1), Calhoun and Orangeburg Counties, to J. F. Cleckley & Co., Orangeburg, **$52,287*****grading, surf. 6.956 mi. Roads 43 and 71 from near Pageland southeasterly to Route 265 S-409 (1), Chesterfield Co., to Robert Lee, Inc., Manning, **$54,652*****grading, surf. 6.68 mi. Roads 54, 52, 51 and 26 from Pinewood southerly to Rimini S/455 (1), Clarendon and Sumter Counties, to Reeves Bros. Constr. Co., Easley, **$55,273** ***grading, Surf. 7.617 mi. Route 227 from end of present pavement to Chester Co. line, S-421 (1) Fairfield Co., to Boyle Constr. Co., Sumter, **$61,691***** grading, surf. 7.997 mi. Route 309 from Sumter Co. line southeast to Route 341, S-351 (1), to Hubbard Constr. Co., Marion, **$88,959*****grading, paving 10.442 mi. Road 24 from Route 128 northwest to Route 36 near Pineland S-447 (1), Jasper Co., to George Lokey Constr. Co., Augusta, Ga., **$89,063.** Bids 1/17, awarded 1/19. Grand total $941,431. CD 1/9.

Tex., Beaumont—Gaylynn Apartment Corp., 80 Main St., Houston, street constr., dirt work, own forces. Approx. **$50,000.** CD 1/11.

Tex., Center—City, 6 in. c. conc. paving, curbs and gutters, own forces. **$66,000.** CD 11/29/45.

Tex., Dallas—Caruth Corp., c/o W. W. Caruth, Jr., 5803 Greenville St., street constr., asph. paving, own forces. Approx. **$56,600.**

Tex., Houston—Jack Forman, 2715 Wheeler St., construct and asph. paving sub-division streets, own forces. Approx. **$50,000.**

Tex., Port Arthur—DeLoux & Plessala Realty Co., Port Arthur, street constr., asph. paving, own forces. Approx. **$68,000.**

B. C., Saanich (P. O. Royal Oak)—District of Saanich Royal Oak, reconstruction penetration and seal coat surf. approx. 25 mi. road and gravity wall and rein.-con. slab reservoir, to Dawson, Wade & Co., Ltd., 775 Clark Dr., Vancouver, **$207,562** and **$99,961** respectively. Bids 9/6. CD 8/29.

Ont., Goderich—Huron County Council, Goderich, pavements, resurf., repairs, maintenance on roads, own forces, under supervision of T. R. Patterson, engr. County Bldgs., Goderich, **$450,000.**

Ont., London—Middlesex Co., London, 20 mi. resurf., new pavements, and preparatory work for 1951, own forces, under supervision of W. K. Clawson, engr., County Bldgs., London, **$646,000.**

Ont., St. Thomas—Elgin County Council St. Thomas, Paving, maintenance and road works, own forces, under supervision F. C. Bell, engr., Court House, **$370,000.**

Ont., Sarnia—Lambton Council, Sarnia, paving, maintenance and road work, own forces, under supervision of J. C. Monteith, engr., County Bldg., Sarnia, **$200,000.**

Ont., Stratford—Perth County Council, Stratford, paving, maintenance and road imprvs., own forces, under supervision of H. Bates, engr. Court House, Stratford, **$300,000.** CD 4/8/46..

EARTHWORK, WATERWAYS

BIDS ASKED

† **Illinois**—B.A. 2/7—U. S. Eng., 826 U. S. Court House & Custom House, 1114 Market St., St. Louis 1, Mo., constr. about 5,700 lin. ft. earthen levees in Prairie Du Rocher, and vicinity Proj. Item I-B (1), (Edgar Lakes and Prairie Du Rocher & Bodoc Drainage & Levee Dists.) Randolph Co., near Prairie Du Rocher, along left bank of Prairie Du Rocher Creek, opposite mile 130 of Mississippi River above mouth of Ohio River, incl. placing 81,000 cu. yd. earth, foundation preparation, seeding and mulching 8 acres of levee surfaces, CIVENG 23-065-50-65. CD 1/23.

† **Pennsylvania**—B.A.—2/7—U. S. Eng., first and Douglas Sts., N. W., Wash. 25, D. C., drilling well in vicinity of Ricketts, Serial No. Eng-49-080-50-8 (11)

† **Florida**—B.A. 2/14—U. S. Eng., P. O. Box 4970, Jacksonville, rewiring electric conduits of Moore Haven Lock, at entrance of Caloosahatchee Canal into Lake Okeechobee at Moore Haven, near U. S. Hy. 27 and Atlantic Coast Line R. R., Inv. CIVENG-08-13-50-62. CD 6/9/44.

† **Oregon**—B.A. 2/14—U. S. Eng., 19 E. Poplar St., Walla Walla, Wash., construct levees in city of Union on right and left banks of Catherine Creek, Union Co., CIVENG-45-164-50-82. Extended date. CD 1/11.

† **Texas**—B.A. 2/14—U. S. Eng., 606 Santa Fe Bldg., Galveston, clearing, grubbing, Part I of Reservoir Sect. Inv. No. CIVENG-41-243-50-96. Approx. $40,000. CD 1/19.

† **Virginia, Florida and South Carolina**—B.A. About 2/15—U. S. Eng., P. O. Box 905, Charleston, S. C., maintenance dredging Atlantic Intracoastal Waterway between Norfolk, Va. and St. Johns River, Fla., Charleston District (Shoals between Winyah Bay and Charleston, S. C.), CIVENG-38-081-50-14.

Tex., Houston—Bids Asked—Pleasantville, Inc., c/o M. A. Silverman, 6110 Almeda Rd., site grading, drainage. Approx. $50,000. Still, Wildman & Crockett, 3500 Almeda Rd., engrs.

LOW BIDDERS

† **Kansas**—U. S. Eng., P. O. Box 61, Tulsa, Zone 1, Okla., cancelled bids to have been opened Jan. 27, channel imprv. east branch intercepting canal and Wichita Drainage Canal. CIVENG-34-066-50-83, and Big Slough-Cowskin Floodway, Parcel A, Arkansas River Basin. CIVENG. 34-066-50-84. CD 1/11.

† **Montana**—Bureau Reclamation, Dpt. Interior, Bldg. 1 A, Denver Federal Center, Denver, Colo., Jan. 17, Spec. 2835, constr. Canyon Ferry Dam and power plant, Misouri River Basin Proj., Canyon Ferry Unit, 280,000 barrels bulk portland cement, from Permanente Cement Co., 1924 Broadway, Oakland, Calif., **$2.65** per bbl., f.o.b. Permanente; Schedule 2, 22,600 tons bulk pozzolan, from Combustion By-Products Co., 228 N. La Salle St., Chicago, Ill., **$1.40** per ton, f.o.b. Chicago; Schedule 3, 75,000 tons bulk portland-pozzolan cement, from Monolith Portland Midwest Co., Tram Bldg., Denver, Colo., **$16.07** per ton (subject to 58c. per ton increase) f.o.b. Laromie, Wyo. CD 1/10.

† **New York**—U. S. Eng., Niagara and Bridge Sts., Buffalo, Zone 7, maintenance dredging Buffalo River and ship canal, Buffalo Harbor, from Great Lakes Dredge & Dock Co., 34 Niagara St., Buffalo, **$145,600.** CD 10/15/45.

† **N. Y., Dunkirk**—U. S. Eng., Niagara and Bridge Sts., Buffalo, Zone 7, deepening Dunkirk Harbor in entrance channel, inner channel and turning basin, from Dunbar & Sullivan Dredging Co., 2312 Buhl Bldg., Detroit, Mich., **$285,493.** CD 2/26/47.

† **Ohio**—U. S. Eng., Madison Ave. and 8 St. W., Huntington, W. Va., Jan. 20, construct Nashport Dike, Dillon Reservoir, Licking River, Serial No. CIVENG-46-022-50-42, from H. W. Holt & Sons, 998 W. Mound St., Columbus, **$208,272.** CD 12/28.

† **South Carolina**—U. S. Eng., Customhouse, Charleston, Jan. 17, removing 2,107,600 cu. yd. material from Charleston Harbor, Serial No. CIVENG-38-081-50-12, from Norfolk Dredging Co., Campostella Wharf, Norfolk, Va., **$368,408.** CD 12/22.

Tex., Robert Lee—Upper Colorado River Auth., c/o G. C. Allen, secy., Robert Lee, Jan. 17, reservoir dam on Mountain Creek, incl. 120,000 cu. yd. earth in combined core trench and dam embankment, from J. W. Roberson & Son Constr. Co., Springtown, **$62,728.** Est. $70,000. CD 12/28.

CONTRACTS AWARDED

† **Oklahoma**—U. S. Eng., P. O. Box 61, Tulsa, Zone 1, Jan. 10, addnl. bank protection, Arkansas River near Haskel, CIVENG-34-066-50-81, to Pool Constr. Co., Shawnee, **$31,200.** Awarded 1/12. CD 12/28.

† **Pennsylvania**—U. S. Eng., 24 St. and Maryland Ave., P. O. Box 1715, Baltimore 3, Md., replacing channel wall, Codorus Creek, York, Serial No. CIVENG-18-020-50-14, to William F. Schimmel & Co., 700 E. Main St., Nanticoke, **$29,575.** Est. $24,195. Bids 1/17. CD 12/19.

† **Pa., Phila.**—Pub. Wks. Office, Phila. Naval Base, dredging Pier 2 and Pier 4, Spec. 23600, to American Dredging Co., 12 S. 12 St., Phila., **$66,250.** Bids 1/19.

Tex., Houston—Harris County Flood Control Dist., Courthouse, lateral ditches cleaning, wid'n., deepening, etc. in various sects. of city, own forces. Approx. **$200,000.** CD 4/22/48.

Ont., Toronto—Dpt. P. Wks., Hunter Bldg., Ottawa, 430 ft., steel pile breakwater on Lake Front, to Russell Constr. Co., Ltd., Harbor Comn. Bldg. Approx. **$57,517.** Bids 11/30. CD 11/18.

AIRPORTS

BIDS ASKED

Utah, Cedar City—ADMINISTRATION BLDG.—B.A. 2/10—City, c/o Ellen A. Simkins, recdr., City Hall, administration bldg., grading for aircraft and auto parking areas, etc., $129,000. Ashton, Evans & Brazier, 24 South West Temple St., Salt Lake City, and L. Robert Gardner, Cedar City, archts. CD 7/13/48.

LOW BIDDERS

Md., Baltimore—AIRPORT IMPRVS.—Bd. Estimated, Mayor and City Council of Baltimore, City Hall, Jan. 18, Contr. 5, Stoney Run Trunk Sewer incl. approx. 2 mi. 6- to 15-in. sewer, for Friendship International Airport on and adjacent to Friendship International Airport site, located approx. 9 mi. south of city center, from Nello L. Teer Co., Box 1131, Durham, N. C., **$95,453.** Est. $100,000. CD 1/12.

Tex., Lubbock—AIRPORT—City, Jan. 12, airport imprvs., paving, concrete curbs and gutters, sprinkler sys., sodding, lighting, from Kerr-Middleton, 2206 N. 3 St. **$71,031.** Est. $50,000. CD 12/20.

CONTRACTS AWARDED

† **O., Cleveland**—PUMP HOUSE, etc.—National Advisory Comm. on Aeronautics, Cleveland Airport, Cleveland, pumphouse, cooling house, fuel tank, fdns., to R. Hansen Co., 2646 N. Moreland Blvd., **$143,116.** Est. **$150,000.** Bids 1/16, awarded 1/19. CD 1/3.

Tex., Denison—AIRPORT—Southwest Aircraft Corp., Meacham Field, Fort Worth, airstrip and seaplane base at Lake Texoma, own forces. Approx. **$85,000.**

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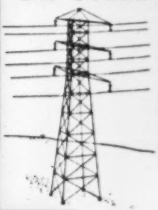

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AMERICANS ABROAD

▲ **Japan**—Japan Development Corp. of America, George J. Strauss, pres., c/o Wilton Becket, archt., 3757 Wilshire St., Los Angeles, Calif., U. S. A., will construct hotel, resort and commercial centers in Tokyo, Osaka, Yokohama, Kobe and 13 other Japanese cities, with Japanese Labor with American Supervisory personnel. **$100,000,000.**

▲ **Turkey**—E. K. I., Ankara, Turkey, engineering and constructing harbor, coal washeries and railroad facilities and imprv. mining properties in vicinity of Zonguldak, 200 mi. northwest of Ankara, to Koppers Co., Inc., Koppers Bldg., Pittsburgh, Pa., U. S. A. Approx. **$50,000,000.**

PUBLIC BUILDINGS

BIDS ASKED

Md., Towson—COURT HOUSE—B.A. 2/7—Comrs. Baltimore Co. Court House, Zone 4, courthouse alterations. Plans deposit $15. Wm F. Stone Jr., 2612 N. Charles St., Baltimore, Zone 18, archt. CD 2/1/16.

N. Y., New York—MAINTENANCE—B.A. 2/8—Dpt. P. Wks., Municipal Bldg., Zone 7, general contract; plumbing; heating and ventilating; electrical work, lighting fixtures for maintenance bldg., 166 Avenue of Americas, for New York Public Library. Plans deposit $25. CD 8/20/45.

Del., Ocean View—SCHOOL, etc.—B.A. 2/9—Lord Baltimore Special School Dist., Ocean View and State Bd. Educ., Dover, school and gymnasium. $250,000. E. William Martin, 830 West St., Wilmington, archt. CD 8/12.

▲ **Md., Baltimore**—COLLEGE—B.A. 2/9—State of Md. Dpt. P. Imprvts., John B. Funk, ch. engr., 506 Park Ave., 3 story, bsmnt., 46x151 ft., rein.-con., stone, steel, Womens Dormitory Bldg. 11. $425,000, 3 story, bsmnt., stone, rein.-con. steel Mens Dormitory 29. $475,000. Plans deposit $20 each. Gaudreau & Gaudreau, 527 N. Charles St., archts.; Faisant & Kooken, 2017 Maryland Ave., struct. engrs.; irregular-shaped, stone, concrete, steel gymnasium and classroom bldg., alternate—swimming pool wing, $900,000. Plans deposit $30, Taylor & Fisher, 1012 N. Calvert St., Baltimore, Zone 2, archt., all above work at Morgan State College, Egli & Gompf, Inc., 1019 N. Calvert St., mech. engr. CD 10/10.

N. Y., Phelps—SCHOOL—B.A. 2/9—Bd. Educ., Central School Dist. 1, Phelps, school. $340,000. Smith & Stickney, 154 East Ave., Rochester, archts.

† **Wyoming**—CONTROL BOARD PANEL, etc.—B.A. 2/14—Bureau Reclamation, Casper, furnishing, del. one control board panel and the unmounted equip. for Cheyenne Substation Kentrick Proj., Spec. VII-99. A. A. Batson, regional dir.

Tex., Floydada—COURTHOUSE—B.A. 2/15—Floyd Co., Courthouse, courthouse. $250,000. Plans deposit $25. Haynes & Kirby, 19 and Dixie Dr., Lubbock, engrs. and archts.

Tex., Pasadena—SCHOOL—B.A. 2/15—Pasadena Independent School Dist., Pasadena, 26-room school and school addns. $750,000. Lloyd & Morgan, 4605 Montrose Blvd., Houston, archts. CD 11/17.

† **Alaska, Fairbanks**—MILITARY INSTALLATION—B.A. 2/15—U. S. Eng. (APO 942, c/o PM, Seattle, Wash.), Anchorage, bachelor officers' quarters, airmen's barracks, central heat and power plant, operations bldg., warehouse and cold storage, vehicle warm storage, mess hall, recreation bldg., dispensary and administration bldg., POL station storage, outside utilities and roads at Murphy Dome, **S 95-507-50-7.** Plans deposit $100. Extended date. CD 12/21.

▲ † **Utah, Salt Lake City**—HOSPITAL—B.A. 2/16—U. S. Eng., 74 New Montgomery St., San Francisco 19, Calif., 500 bed neurophychiatric hospital Veterans Admin. Hospital for Veterans Admin., Vermont Ave. between H and I Sts. N. W., Wash. 25, D. C. Approx. $6,000,000-$8,000,000. CD 4/16/48.

LOW BIDDERS

Ala., Auburn—EDUCATION—Alabama Polytechnic Institute, Auburn, Jan. 17, general education bldg., from Jones & Hardy, Montevallo, **$390,777.** CD 12/21.

Ala., Troy—DINING HALL, etc.—State Teachers College, Troy, Jan. 19, dining hall and dormitory, from Osceola Constr. Co., Mobile Hy., Pensacola, Fla., **$282,910.** CD 12/22.

† **California**—POWER PLANT—Bureau Reclamation Dpt. Interior, Redding, Jan. 19, Shasta Power Plant, Central Valley Proj., Spec. 2868, from O'Connor Bros., 750 Madison St., Red Bluff, **$112,623.** CD 12/23.

Mass., Athol—HOUSING—Town of Athol Housing Auth., Athol, Jan. 10, 32 single houses, S-A Proj. Athol 200-1, from Beacon Constr. Co., 102 Hano St., Allston, **$324,500.** CD 12/22.

N. C., Kinston — DORMITORIES — Caswell Training School S. H. Stroud, bus. mgr., Kinston, Jan. 19, general contract approx. 14,900 sq. ft. dormitory for 35 married couples; approx. 16,200 sq. ft. dormitory for 64 single women, from P. S. West Constr. Co., Statesville, **$269,000.** CD 1/12.

O., Medina—SCHOOL—Bd. Educ., Medina,- 2 story, bsmnt., brick, block, steel, Garfield School addn., from R. P. Carbone Constr. Co., 1504 Scovill Ave., Cleveland, **$361,620.** CD 10/8/48.

▲ **Pa., Upper Darby**—SCHOOLS—Upper Darby Twp. School Bd., School Lane, general contract school, Ashursh Ave. and Bunting Lane, Primos, from Laub Constr. Co., Inc., 1518 Walnut St., Phila., **$499,750.** Charles H. Wolf, 112 S. 16 St., Phila., engr. CD 1/13; general contract school, Bond Ave., from M. & L. Constr. Co., 108 S. 40 St., Phila., **$529,473.** CD 12/8.

S. C., Clemson — ENGINEERING — Clemson Agricultural College, Sirrine Hall, Textile Bldg., Jan. 16, Agricultural Engineering Bldg., from Brissey Lumber Co., Anderson, **$249,400.** CD 12/30.

S. C., Greenville—STEAM PLANT, etc.—Greenville General Hospital, Greenville, Jan. 18, steam plant and laundry, from Daniel Constr. Co., Greenville, **$88,850.** J. E. Sirrine Co., 215 S. Main St., archt.

Alta., Red Deer—POST OFFICE, etc.—Dpt. P. Wks., Hunter Bldg., Ottawa, Ont., Jan. 18, 100x140 ft., brick, steel, post office and offices, from Hornstrom Bros., 1026 Eight Ave. W. Calgary, **$361,468.** CD 12/20.

P. E. I., Summerside—POST OFFICE, etc.—Dpt. P. Wks., Hunter Bldg., Ottawa, Ont., Jan. 18, post office and offices, from M. F. Schurman Co., Ltd., Eustane St., Approx. **$338,352.** CD 12/27.

CONTRACTS AWARDED

† **California**—RESIDENCES, etc.—Bureau Reclamation, Dpt. Interior, Goleta, Schedule 1, 5 three-bedroom and 19 two-bedroom residences for Cachuma Government Camp, Santa Barbara Proj., Spec. R-286 (Region 2), to C. C. Sharps, Arroyo Grande. **$103,951.** Bids 12/28, awarded 1/10.

▲† **Conn., West Haven**—HOSPITAL—U. S. Eng., Bldg. 21, U. S. Naval Drydock, South Boston, Mass., veterans hospital on 63 acre site between W. Spring St. on South Terrace Ave.; on north and exten. along Campbell Ave., Serial No. Eng. 10-016-50-55, for Veterans Admin. Vermont Ave. between H & I Sts. N. W., Wash., 25, D. C., to Merritt-Chapman & Scott Corp., 17 Battery Pl., New York, N. Y., **$12,845,000.** Bids 1/11, CD 1/13, under LB.

Fla., Miami — AUDITORIUM — Dade Co., Courthouse, county auditorium, to Caldwell-Scott Constr. Co., 340 S. E. 24 St., Ft. Lauderdale, **$715,888.** Bids 1/10. CD 1/16, under LB.

▲ **Ill., Chicago**—HOSPITAL—University of Illinois, 840 S. Wood St., Zone 12, heating and refrigeration for 14 story 150x187 ft. steel, granite, cut stone Research and Education Hospital in West Side Medical Center, to M. J. Corboy Co., 405 N. Desplaines St., Zone 6, **$635,140;** electrical work, to Wadeford Electric Co., 205 W. Wacker St., Zone 1, **$538,878.** Bids 9/28, awarded 12/16. CD 11/2, under LB.

Ky., Lexington—PLANT—State Eng. & Constr. Div., central heating plant addn., University of Kentucky, to Geo. H. Rummel Co., Logan St., Louisville, Zone 4, **$379,989.** Bids 10/27, awarded 1/12. Proctor-Ingles, 414 Barr St., Lexington, mech. engrs. CD 11/7, under LB.

Utah, Salt Lake City—HIGH SCHOOL—Granite School Dist., 3212 South State St., general contact Olympus Junior High School addn., 2217 E. 4800 South St., to Johnson & Son, c/o owner, **$325,797.** Bids 1/3. CD 12/13.

Utah, Salt Lake City—CANCER RESEARCH WING—State Bldg. Bd., State Capitol, general contract Cancer Research Wing to Basic Science Bldg. of University of Utah, to Alfred Brown Co., 224 Dooly Bldg., **$339,278.** Bids 12/14. Ashton, Evans & Brazier, 24 South West Temple St., archts.

COMMERCIAL BUILDINGS

BIDS ASKED

▲ **Ill., Jacksonville**—HOSPITAL—B. A. After 2/20—Passavant Memorial Hospital Addn., 4 story, steel, concrete brick hospital. $2,000,000. Edgar Martin, 206 S. Michigan St., Chicago, Zone 4, archt. Alex. J. Emero, 206 S. Michigan St., Chicago, Zone 4, engr. CD 4/20.

SOON LETS CONTRACT

Ill., Westmont—SCHOOL—Holy Trinity Parish Linden Ave., soon lets contract 1 story, bsmnt., 28,000 sq ft. school, $250,000. Edo. J. Belli, 8 S. Dearborn St., Chicago, Zone 3, archt.

La., Houma—SCHOOL—Roman Catholic Congregation of St. Francis de Salles Parish, c/o Bendernagel & Cazale, archts., 8 Marlborough Gate, New Orleans, soon lets contract 3 story, parochial school. CD 1/11.

Alta., Edmonton—THEATRE—Stanley & Stanley, archts., 10012 102 S., Edmonton, soon let contract 2,000 seating theatre, 10233 Jasper Ave., for Famous Players (Canadian) Corp., Ltd., Royal Bank Bldg., Toronto, Ont., approx. $500,000. CD 10/4.

LOW BIDDERS

▲ **Tex., Houston**—SHOPPING CENTERS—L. F. Corrigan, Mercantile Bank Bldg., Dallas, cancelled bids shopping center, N. Shepherd St., **$1,000,000;** shopping center, east side, outside Business Dist. **$900,000;** community or shopping center (no theatre), **$350,000.** CD 11/10.

Tex., Midland—DIAL—Southwestern Bell Telephone Co., Akard, Jackson, Wood Sts., Dallas, Jan. 13, 2 story bsmnt., dial telephone and equip. storage, from Henry G. Beck Co., Irwin-Keasler Bldg., Dallas, **$261,000.** CD 1/9/50.

CONTRACTS AWARDED

▲ **Calif., Los Angeles**—APARTMENT—Geo. A. Cerdingly, 405 N. Bedford Dr., Beverly Hills, 10 story, rein.-con. apartment. Owner builds, **$1,250,000.** Martin Stern, Jr., 8939½ Santa Monica Blvd., Beverly Hills, archt.

D. C., Wash.—APARTMENTS—Congress Development Corp. II, 1018 Vermont Ave., of N. W., Zone 6, seven 3 story, brick, cinder block apartments. Owner builds, **$672,000.** Hal A. Miller & G. V. Stone & Assoc., 337 St. Paul St., Baltimore, Md., archts.

D. C., Wash—STORE, etc.—J. D. Hedin Constr. Co., 820 Michigan Ave., N. E., Zone 17, one 5 story, brick, cinder block, concrete store, office and apartment, 2901-09 Newton St. N. E. Owner builds. **$300,000.** Awarded 1/13. Marcus Hallett, 6526 Piney Branch Rd. N. W., archt.

Fla., Miami—HOTEL—Hotel Gould, Inc., c/o contractor, hotel, to George Winston Constr. Corp., 9316 Collins Ave., Surfside. Approx. **$500,000.**

Fla., Miami—HOMES—Tikvoh Realty Corp., c/o contractor, 36 homes, to City Constr. Corp., 150 N. W. 73 St. Approx. **$250,000.**

Ga., Atlanta—CLUBHOUSE—Atlanta Lodge No. 78, BPOE c/o contractor, Elk's Clubhouse, to Crosland Constr. Co., 1623 Harden St., Columbia, S. C., **$307,740.** Bids 1/18. CD 12/20.

Ill., Chicago—APARTMENTS—Foster-Hoyne Corp., c/o Harold A. Sahl, archt., 111 W. Washington St., Zone 2, eight 20 unit apartments, to C & R Co., 11 S. LaSalle St., Zone 3, **$800,000.** CD 11/4.

Kan., Wichita—HOUSES—Matlock & Co., Inc., 1402 N. Minnesota St., 33 fourplex type houses. Owner builds, **$350,000.**

La., New Orleans—HOUSING—Wickfield, Inc., c/o contractor, 83 houses, to R. P. Farnsworth & Co., 1515 S. Salcedo St. Approx. **$400,000.**

La., Shreveport — APARTMENT — Cen-Wyan, Inc., c/o Fred S. Hopper, archt., 174 Carrollton Ave., apartment development. Owner builds, **$500,000.**

▲ **La., Shreveport**—APARTMENTS—Shelby Constr. Co., 4220 Paris Ave., New Orleans, 300 apartment units, own forces, **$3,000,000.**

▲ **La., Shreveport**—HOUSING—Surbanban Housing Corp., c/o contractor, construct, finance and manage, 692 housing units, Barkdale Air Force Base, to Daniel Constr. Co., Greenville, S. C. **$5,571,100.**

Md., Baltimore—RESIDENCES—Berkshire Land Co., 1110 Fidelity Bldg., 34 concrete block, brick residences, 31 to 84 Berkshire Rd., to Essex Constr. Co., 1110 Fidelity Bldg., **$310,000,** C. E. Hebrank, 20 E. Lexington St., archt.

Md., Baltimore—APARTMENT—M. J. Myerberg & Sons, 302 Park Ave., 16 story, brick, stone, concrete, steel, apartment, 1010 St. Paul St., to Myerberg Bros., Inc., 302 Park Ave., **$500,000.** Hal A. Miller, 2118 Maryland Ave., Zone 18, archt.

Md., Baltimore—DWELLINGS—Wm. J. O'Meara, P. O. Box 4, Zone 18, fifty-four, 2 story, 20x30x32 ft., brick dwellings, 2000-12, 2001-15, 1916-32, 1901-31, 1801-13, 1701-13, Hillenwood Rd., West Hamilton, separate contracts. **$324,000.** Rudolph F. Fischer, c/o owner, archt.

Md., Baltimore—RESIDENCES—G. W. Schoenhals & Co., Inc., 3338 Dolfield Ave., thirty-six 2 story, 20x30x32 ft., brick semi-detached residences, 6200-38 Glenmont Ave.; separate contracts. **$432,000.**

Mass., Maravista—HOUSING—Kelbridge Trust Co., 25 Forest St., Arlington, 30 single frame houses. Owner builds. **$250,000.**

▲ **Mich., Detroit**—OFFICE—Michigan Mutual Life Insurance Co., 163 Madison Ave., 12 story, 90x120 ft., masonry, structural, steel office bldg., to Barton Malow Co., 2631 Woodward Ave., **$1,500,000.** Awarded 1/16. Harley Ellington & Day, 153 E. Elizabeth St., archts.

Minn., Hastings—HOSPITAL—Salve Regina Memorial Hospital, H. J. Hoffman, chn. bldg. comn., general contract 2 and 3 story, 39x146 ft. hospital, to W. Butler Co., 1300 Minnesota Bldg., St. Paul, **$400,000.** CD 1/19.

▲ **Minn., St. Paul**—OFFICE—Minnesota Mining & Mfg. Co., 900 Fauquier Ave., general contract 5 story, bsmnt., 120x312 ft. office bldg., Reany Ave. and Mendota St., to W. Murphy & Son, 428 New York Bldg., **$3,000,000.** CD 1/18.

Miss., Jackson—HOUSES—Dunn Constr. Co., 1st National Bank Bldg., Birmingham, Ala., 160 Negro Homes, Whitfield Mills Rd. and Green St. Owner builds. **$600,000.**

Neb., Omaha — PAROCHIAL COLLEGE — Notre Dame Academy, 3505 State St., general contract parochial college addn., to Gilmore Co., 1207 N. 11 St.*** plumbing and heating, to J. J. Hanighen, Co., 617 S. 14 St.***wiring, to Armature & Mach. Co., 1708 Jackson St. Approx. **$400,000.** Bids 1/10. CD 12/16.

N. J., Mt. Holly—RESIDENTIAL DEVELOPMENT—Blose Ravikio Juliustown Rd., Mt. Holly, residential development, separate contracts. **$400,000.** Dante J. D'Anastasio, 1815 Federal St., Camden, archt.

N. C., Raleigh—APARTMENT—Smallwood Apartments, Inc., c/o contractor, 88 apartment units, to York Building Co., Capital Club Bldg. Approx. **$450,000.**

O., Chagrin Falls—HOMES—H. W. Shepherd, 10708 Shaker Blvd., Shaker Heights, 11 homes, Richmond Blvd., separate contracts. **$385,000.**

O., Cleveland—HOMES—Par Constr. Co., 1601 Lakefront Ave., East Cleveland, 32 one story frame homes, W. 148 and W. 149 Sts., separate contracts. **$320,000.**

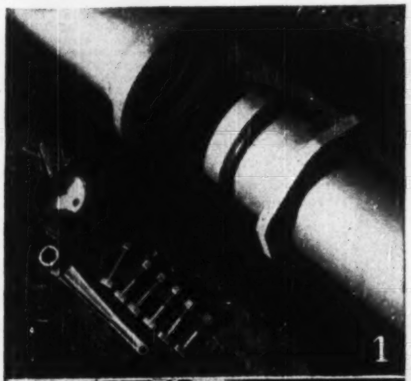
▲ **O. Cleveland**—HOMES—Alex Bruscino, 17309 Madison St., Lakewood, Zone 7, two hundred 1 story, no bsmnt., frame homes, Milton-Cleminshaw Ave., W. 145 St., W. 146 St., W. 144 St., Elsetta and Emery Aves., **$2,000,000;** two hundred and seven 1½ story, no bsmnt., frame homes, Midvale, Westport and Brysdale Rds., **$2,000,000,** separate contracts. CD 5/13.

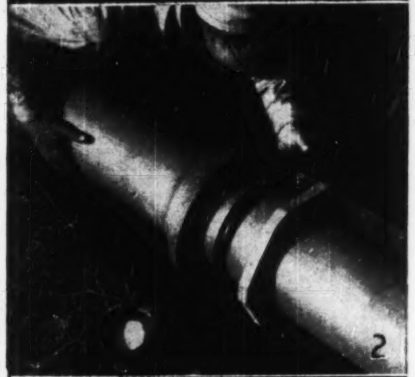
▲ **O., Cleveland**—HOMES—Alex Fador Realty Co., 3324 Lorain Ave., one hundred fifty 1½ story bsmnt., frame homes, in Pomia, Brooklyn, Fairview and Olmsted Falls, separate contracts, **$1,500,000.**

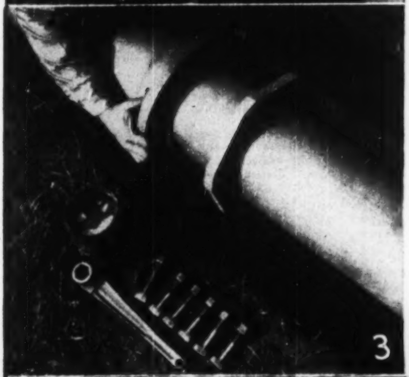
O., Cleveland—HOMES—Harvard Homes, 12740 Broadway, forty 1½ story, bsmnt., brick, block homes, E. 187 St., separate contracts. **$432,000.**

▲ **O., Cleveland**—HOMES—Sidney Zehman, 13484 Cedar Rd., Cleveland Heights, 100, 1½ story, bsmnt., frame

(Continued on page 86)







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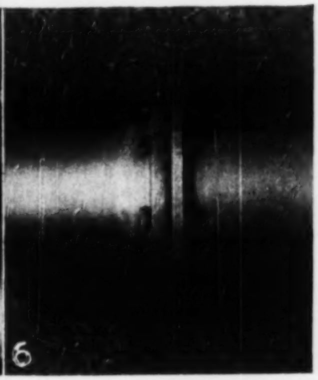

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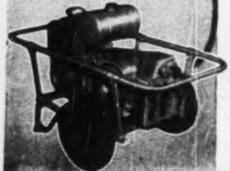

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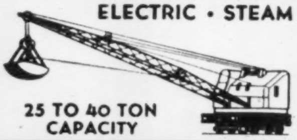

25 TO 40 TON CAPACITY

THE OHIO LOCOMOTIVE CRANE CO
BUCYRUS, OHIO

(Continued from page 84)

homes in Cuyahoga Co., separate contracts. **$1,000,000.** CD 11/2/44.

▲ **O., Elyria**—HOMES—Alex Bruscino, 17309 Madison St., Lakewood, one hundred twenty-five 1 and 1½ story, bsmnt., frame homes, Cambridge, Princeton and Easter Hts. Blvd., separate contracts, **$1,125,000.** Damon Worley & Assoc., Engineers Bldg., Cleveland, archts.

▲ **O., Euclid**—HOMES—F & S Constr. Co., 122 W. Washington St. Phoenix, Ariz., 500 brick homes, on eastern sect. of Lakeland Blvd., on 135 acre tract, separate contracts, **$15,000,000.**

O., Euclid—HOMES—Mavec Constr. Co., 295 E. 200 St., 60 two story, bsmnt., brick homes, E. 222 St. and Morris Ave., separate contracts. **$760,000.**

O., Mayfield Heights—HOMES—Leo L. Dubin & Co., 1925 Lee Rd., Cleveland Heights, fifty 1 story, no bsmnt., homes, separate contracts. **$500,000.**

▲ **Ore., Cedar Hills** — HOMES — Commonwealth, Inc., Equitable Bldg., Portland, 400 home proj. in Cedar Hills to Briggs Constr. Co., 1107 A, Tacoma, Wash., **$4,000,000.** Awarded 1/16. James Gardiner, Broadway Theater Bldg., Tacoma, Wash., archt.

▲ **Ore., Portland**—APARTMENTS—Victor N. Jones & Assoc., Republic Bldg., Seattle, Wash., 14 story, 314 unit, rein.-con Ione Plaza apartments, Park and Mills Sts., to Republic Constr. Corp., 1618 N. Las Palmas St., Hollywood, Calif., **$2,772,300.** Awarded 1/19. CD 9/12.

▲ **Pa., Broomall**—RESIDENTIAL DEVELOPMENT—Joseph L. Marciano, 9111 West Chester Pike, Kirklyn, residential development, separate contracts. **$1,000,000.**

Pa., Broomall—RESIDENTIAL DEVELOPMENT—Suburban Imprvt. Co., 236 Rosewood Ave., Aldon, residential development, Lawrence Rd., to D. S. D'Alonzo, c/o owner. **$600,000.**

▲ **Pa., Havertown**—RESIDENTIAL DEVELOPMENT—Marlyn Constr. Co., 111 Fairfield Ave., Upper Darby, residential development, Grove Pl., etc., separate contracts. **$1,250,000.** David Slott, 7060 Garrett Rd., Upper Darby, archt.

Pa., Holmes—RESIDENTIAL DEVELOPMENT—Amosland Homes, Inc., Folsom, residential development, Holmes Rd. and Academy Ave., to Reideinger Constr. Co., Mac Dade Blvd. and Cedar Ave., **$350,000.** Karl F. Otto, 1528 Buckingham Dr., Rosemont, archt.

Pa., Lansdale—RESIDENTIAL DEVELOPMENT—Sanford H. Ulmer, Lansdale, residential development, Lansdale Ave., separate contracts. **$250,000.**

Pa., Lansdowne—RESIDENTIAL DEVELOPMENT—Frank A. Martin, Inc., 1518 Walnut St., Phila., residential development, Gladstone Manor Section, separate contracts. **$250,000.**

Pa., Melrose Park—RESIDENTIAL DEVELOPMENT—Manor Homes, Inc., 1321 Arch St., Phila., residential development, various locations, separate contracts. **$250,000.**

▲ **Pa., Merion Park (Bala P. O.)**—RESIDENTIAL DEVELOPMENT—Merion Homes Corp., 304 Levering Mill Rd., Bala Cynwyd, residential development, Manayunk Ave., etc., to Madway Eng. & Constr. Co., c/o owner. **$2,000,000.** Jack Swerman, 405 Market St., Chester, archt.

Pa., Phila.—RESIDENCES—Berman Bros., Inc., 6032 Market St., residential development, Creston and Comly Sts., separate contracts. **$668,850.** J. Ethan Fieldstein, 1325 Walnut St., archt.

Pa., Phila.—RESIDENCES—Max Chipin & Sons, 6301 Crittenden St., residential development, Cottage St., separate contracts. **$406,000.**

Pa., Phila.—RESIDENTIAL DEVELOPMENT—Hawthorne Homes, 1331 S. Juniper St., residential development, Hellerman St. and also Hawthorne St., separate contracts. **$756,000.** Lewis J. Cowan, 1055 Pine St., archt.

Pa., Phila.—SUPER MARKET, etc.—Penn Fruit Co., 1919 Chestnut St., super market and 3 stores, Old York Rd., to S. Yellin & Son, Inc., 222 N. 11 St., **$350,000.** Bids 1/16. CD 1/12.

▲ **Pa., Phila.**—RESIDENTIAL DEVELOPMENT—Tioga Realty Co., Inc., 17 St. and Erie Ave., residential development Somerton Section, separate contracts. **$1,500,000.**

Pa., Pittsburgh—APARTMENT—Forbes Craig Apartments, Inc., Box 5094, 6 story, brick, block apartment, 4535 Forbes St., to United Constr. Co., Box 5094, Approx. **$400,000.** CD 10/20.

Pa., Secane—RESIDENCES—Robert C. Fallon, 195 E. Plumstead Ave., Lansdowne, residential development, Pershing Ave., separate contracts. **$768,000.** Erling Wenge, McClatchy Bldg., Upper Darby, engr.

Pa., Sewickley—APARTMENT—Elmhurst Apartment, Inc., 1024 Prospect Rd., Pittsburgh, 2 story, brick apartment, to J. A. Seitz Constr. Co., 1024 Prospect Rd., Pittsburgh, Approx. **$450,000.** Phillip Friedman, 121 S. Negley St., Pittsburgh, archt.

Tenn., Nashville—APARTMENT—Colonial Village Corp., c/o contractor, 146 apartment units, to Algernon Blair, 806 Henry Grady Bldg., Atlanta, Ga. Approx. **$500,000.** Bids 10/31. CD 10/24.

▲ **Tex., Beaumont**—APARTMENTS—The Ayrshire Corp., 6825 Academy St., Houston, 17 apartments, day labor. Approx. **$1,300,000.** CD 12/29.

Tex., Beaumont—APARTMENT—M. L. Lefler, Jr. & Assoc., Wiess Bldg., 50 addnl. Negro apartment units to Holliday Constr. Co., 2990 Crockett St. Approx. **$300,000.** CD 1/13.

Tex., Dallas—DWELLINGS—Clearview Park, Inc., 2600 S. Hampton St., 39 one story brick veneer, frame dwellings, to Don Elliott Constr. Co., Box 4403, Station A, Approx. **$310,000.** CD 1/19.

▲ **Tex., Dallas**—DWELLINGS—Vernon & James Smith, 2153 Fort Worth Ave., 275 dwellings, between S. Zang and Saner Ave. Purchase and Hire. Approx. **$1,650,000.** CD 1/6.

Tex., Denison—HOTEL—Horace Black, 4501 Mockingbird Lane, Dallas, Lake Texoma Resort Hotel. Owner builds. Approx. **$500,000.** CD 1/6.

Tex., Eagle Pass—HOUSING—Lee Constr. Co., Eagle Pass, frame housing. Owner builds. **$250,000.** CD 1/12.

Tex., Fort Worth—HOUSING—Ridlea Manors, Inc., 2825 Crockett St., addnl. 100 housing units, Purchase and Hire. Approx. **$850,000.** CD 11/25.

Tex., Garland—HOUSING—Town & Country Builders, Inc., 9001 Denton Dr., Dallas, housing. Owner builds. Approx. **$350,000.** CD 1/9.

Tex., Houston—HOUSING—King & Sheets, City Natl. Bank Bldg., housing. Owner builds. Approx. **$250,000.** CD 1/13.

▲ **Tex., Houston**—DWELLINGS—W. C. Perkins, 701 Gulf Bank Bldg., 200 dwellings, 3rd Sect. Southern Oaks sub-division. Owner builds, **$2,050,000.** CD 1/18.

Tex., Houston—RESIDENCES—Realty Servicing Corp., 2517 Wordsworth St., 52 residences. Owner builds. Approx. **$400,000.** CD 1/19/50.

▲ **Tex., Houston**—APARTMENT—Melvin A. Silverman, 6110 Almeda St., 197 Negro apartments, south of Market St., east of M.K.T. Ry., own forces. Approx. **$1,140,000.** Lloyd & Morgan, 4605 Montrose St., archts. CD 12/2.

Tex., Houston—DWELLINGS—Southland Investment Co., 7106 Long Dr., 160 frame dwellings, 40 acre tract, Houstn Ship channel area to Security Lumber Co., 7106 Long Dr. **$975,000.** CD 12/23.

Tex., LaPorte—DWELLINGS—The Bee Corp., B. Moore, 1364 Wakefield Dr., Houston, 31 dwellings, Old Township Area. Owner builds. Approx. **$250,000.** CD 1/6.

Tex., Midland—HOUSING—Town & Country Builders, Inc., 9001 Denton Dr., Dallas, housing. Owner builds. Approx. **$250,000.** CD 1/9.

Tex., San Antonio — DWELLINGS — Kinmac Quality Homes, 426 John Adams St., 40 dwellings, Allena Village, own forces. Approx. **$325,000.** CD 1/13.

Tex., San Antonio—DWELLINGS—Mission Constr. Co., 110 Arcadia Pl., 23 dwellings. Owner builds. Approx. **$400,000.** CD 1/13.

▲ **Utah, Salt Lake City**—APARTMENT—R. Verne McCullough, atty., Kearns Bldg., 5 story, 84 unit, 210x212 ft., steel, rein.-con. ft. apartment, 2nd North St. and East Capitol Ave., to McCullough Constr. Co., c/o owner. Approx. **$1,000,000.** Clifford Evans, 1266 E. 9th South St., archt.

Va., Roanoke—HOMES—C. D. Bowles, Roanoke, 48 homes. Owner builds. Approx. **$250,000.**

Wash., Bellevue — HOUSES — Veteran's Mutual Bldg., Assn., c/o M. Storlazzi, 633 2 Ave. W., Seattle, 57 houses, in Norwood Village, near here, to Poston Constr. Co., 4005 15 Ave. N.E., Seattle, Zone 5, **$627,500.** CD 1/18, under LB.

B. C., Harrison Hot Springs—RESORT—United Distillers Ltd., 8900 Shaughnessy St., Vancouver, modernize resort bldgs., incl. bathroom installations, elevator service, new heating equip., changes to outdoor swimming pool, to Associated Eng. Co. Ltd., 736 Granville St., Vancouver, Approx. **$300,000.** Mercer & Mercer, 615 W. Hastings St., Vancouver, archts.

▲ **Ont., Billings Bridge** — HOUSING — Louis Gendron, Eastview, housing in Ridgemont Park, own forces, **$1,000,000** L. F. Smith, c/o owner, mgr.

Ont., Sudbury—NURSES RESIDENCES, etc.—Grey Nums of the Cross, Sudbury, 6 story, rein.-con., steel, brick nurses—residence and school at St. Joseph Hospital Grounds, to Collet Freres, Ltd. 1978 Parthenais St., Montreal, Que. Approx. **$800,000.** Bids 11/30. CD 11/25.

INDUSTRIAL BUILDINGS

BIDS ASKED

Neb., Lincoln—GARAGE—B.A. After 2/1—Lincoln Development Co., c/o Martin Aitken, archt., Stuart Bldg., 5 story, 142x200 ft. auto parking garage. Clark & Emerson, Sharp Bldg., assoc. archts. CD 10/13.

Ga., Dudley—WAREHOUSE, etc.—B.A. 2/14—The Oconee Electric Membership Corp., Dudley, warehouse and office. Plans deposit $10. Southern Eng. Co., 1000 Crescent Ave., Atlanta, archt.

Miss., Ocean Springs—FACTORY—B.A. 2/14—Jackson Co., Ocean Springs, 20,000 sq. ft. factory. $80,000. Plans deposit $20. Carl L. Olschner & Assoc., 412 Pere Marquette Bldg., New Orleans, archts. CD 11/21.

Conn., Waterbury—PLANT—Bids Asked—Waterbury Co-operative Dairies, Inc., 108 Union St., (selected list bidders) 2 story, 50x80 ft., processing bldg., and 1 story 25x30 ft., brick, concrete dairy products bldg., Hamilton Ave. $68,000. Henry T. Moeckel, 35 Hillcrest St., Naugatuck, archt.

Mich., Detroit—WAREHOUSE—Bids Asked—Star Steel Supply Co., c/o Robert Serota, archt., 19210 James Couzens Hy., 1 story, 280x280 ft. steel, structural steel, masonry warehouse. **$275,000.**

Pa., Phila. — WAREHOUSE — Bids Asked—Max Haupt, engr., 138 S. 9 St., warehouse, Castor Ave., Sepviva and Tulip Sts., for Owner, c/o engineer. $250,000.

R. I., Pawtucket—PACKING PLANT—Bids Asked—Morris Fruchtbaum, engr., 328 Chestnut St., Phila., Pa., meat packing plant addn. for United Packing Co., 74 Concord St. $70,000.

Tex., San Antonio—WAREHOUSE—Bids Asked—Scobey Fireproof Storage Co., 315 N. Medina St., warehouse. $260,000. Atlee B. & Robert M. Ayres, Transit Tower, archts. W. E. Simpson Co., Milam Bldg., engr. CD 12/12.

Wis., Columbus—WAREHOUSE—Bids Asked—Borden Co., Columbus, 1 story, 60x150 ft., steel, brick warehouse addn., concrete fdn. and floors. A. Kuenzi, 202 N. Water St., Watertown, engr.

SOON LETS CONTRACT

Ga., Jackson—MILL—Pepperton Cotton Mills, c/o J. E. Sirrine Co., archt., 215 S. Main St. Greenville, S. C., soon lets contract mill addn. Approx. $68,000.

Ill., Chicago — MEAT PACKING HOUSE COOLER — Illinois Packing Co., 911 W. 37 St. Zone 9, soon lets contract 3 story, bsmnt., 40,000 sq. ft., meat packing house cooler. $400,000. Shaw, Metz & Dolio, 208 S. LaSalle St., Zone 4, archts.

N. D., Grand Forks—POWER PLANT EQUIP.—Minnkota Power Co-operative, Grand Forks, soon lets contract power plant auxiliary equip. Ellerbe & Co., 1st. Natl. Bank Bldg., St. Paul, Minn., engrs.

Pennsylvania—SERVICE STATIONS—Sun Oil Co., 1608 Walnut St., Phila., soon lets contract service stations 2 in Phila. and 1 in Linwood. $75,000. Samuel E. Hoy, regional co. engr.

Pa., Phila. — WAREHOUSE, etc. — Kaplan & Fish, archts., 2120 Spruce St., soon let contract warehouse and office, for Record Industrial Co., 300 Walnut St. $68,000.

Pa., Pittsburgh—COAL, etc.—H. J. Heintz Co., 1062 Progress St., soon lets contract coal and ash bldg. Approx. $250,000. Peter F. Loftus Corp., Oliver Bldg., engrs. CD 12/10/48.

Pa., Pittsburgh—INTERLOCKING STATION—Pennsylvania R. R. Co. D. L. Sommerville, ch. engr. (Central Region), Pennsylvania Station, Zone 22, soon lets contract brick, block, steel frame interlocking station, East Yard at 15 St. $200,000. Bids 10/15 rejected. CD 10/14.

S. C., Walterboro—WAREHOUSE, etc.—Coastal Electric Co-operative, Walterboro, soon lets contract warehouse and office.—John H. Truluck, Jr., Walterboro, archt.

S. C. Greenville—WAREHOUSE—Greenville Bonded Warehouse Co., c/o J. E. Sirrine Co., archt., 215 Main St., soon lets contract warehouse. Approx. $68,000.

Tex., Waco—GARAGE—Transit Co., Interurban Bldg., soon lets contract garage alterations and addn. $75,000. N. E. Wiedmann, Liberty Bldg., archt.

Tex., Wichita Falls—SERVICE, etc.—Radal Corp., Wichita Falls, soon lets contract 20,000 sq. ft. masonry mechanical service, sales, storage. $100,000. George L. Dahl, 2101 N. St. Paul St., Dallas, archt. CD 1/16.

LOW BIDDERS

Calif., San Jose—WAREHOUSE—Barron-Gray Div., Hawaiian Pineaple Co., 5 and Martha Sts., Jan. 17,

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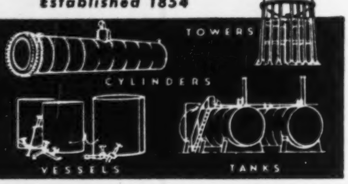

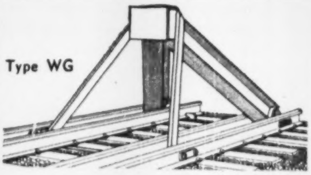

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276x440 ft., concrete warehouse, from Lew Jones, 150 N. 28 St. **$215,987.** CD 1/17.

Ga., Atlanta—WAREHOUSE, etc.—First National Bank c/o Francis P. Smith, archt., Whitehead Bldg., Jan. 20, warehouse and paint shop, from Barge-Thompson Co., 136 Ellis St. N.E. **$95,800.** CD 1/19.

CONTRACTS AWARDED

Ala., Florence—PLANT—Southern Frigid-Dough, Inc., c/o contractor, plant addn., to Stone & Childs Constr. Co., Decatur. Approx. **$150,000.**

▲ **Ga., Atlanta**—WAREHOUSE—International Harvester Co., c/o Fred V. Prather, archt., 8 S. Michigan Ave., Chicago, Ill., warehouse, parts depot, etc., to Ragnar Benson, Inc., c/o architect. Approx. **$1,500,000.** Bids 12/15. CD 11/22.

▲ **Ill., Bedford Park**—PLANT—Corn Products Refining Co., 100x125 ft., steel, concrete 50 ft. height, boiler plant, 2 high pressure boilers, generators, to Bedford Constr. Co., 201 N. Wells St., Chicago, Zone 6, **$8,000,000.** Sargent & Lundy, 140 S. Dearborn St., Chicago, Zone 3, engrs.

Ill., Mundelein—FACTORY—Hubbell Valve Co., 319 N. Albany St., Chicago, Zone 12, 1 story, 12,000 sq. ft., brick, concrete, steel factory, to Northern Builders Inc., 4002 Addison St., Chicago, Zone 41, **$68,000.** Awarded 1/13.

Kan., Coffeyville—PLANT—North American Car Corp., 231 S. LaSalle St., Chicago, Ill., branch bldg. addn., to Universal Constr. Co., 1820 W. 7 St., **$70,000.** CD 1/16.

La., New Orleans—WAREHOUSE, etc.—Standard Coffee Co., c/o contractor, warehouse and mfg. plant, to Lionel Favret, 937 Gravier St. **$462,275.** CD 12/29.

Mass., Dartmouth—STORAGE—Julius Rosenberg & Co., 78 Front St., New Bedford, 1 story, 75x100 ft., steel, concrete banana storage plant, Dartmouth and Rockdale Aves., to Sullivan Foster, Inc., 43 William St., New Bedford. **$68,000.** Bids about 11/30. CD 11/30.

N. J., Camden—PLANT—Shingle Leather Co., 1300 Walnut St., 60x150 ft., masonry mfg. plant addn., to Barclay White Co., 22 N. 36 St., Phila., Pa. **$70,000.** CD 11/2.

O., Hamilton—WAREHOUSE—Omar, Inc., 1910 Harney St., Omaha, Neb., branch warehouse, to Frank Carano, 1515 Mitchell Blvd., Springfield, **$100,000.** CD 11/7.

O., Youngstown—PLANT—Schwebel's Baking Co., Mrs. Dora Schwebel, pres., 1716 W. Lawrence St., 1 story, 60,000 sq. ft. baking plant, Lake Park Ave. and E. Midlothian Blvd., to Joseph Buchet & Sons Co., 819 Mahoning Ave. Approx. **$600,000.** CD 1/9.

Ore., Camp White—HIGH SPEED PLANER and MILL—Ross Lumber Co., Camp White, high speed planer and mill, incl. resaw, force account. **$400,000.**

Ore., Camp White—DRY KILN and PLANING MILL—White City Lumber Co., Camp White, 10 track concrete and tile dry kiln and planing mill, force account. **$500,000.**

Pennsylvania—SERVICE STATIONS—Sun Oil Co., 1608 Walnut St., Phila., 3 service stations, 2 at Allentown, and 1 at Catasauqua, to Murray Realty & Constr. Co., 29 N. S St., Allentown. Approx. **$75,000.** Samuel E. Hoy, c/o owner, regional engr.

Pa., Phila.—PLANT, etc.—Scafaria Bros., Inc., 428 N. 13 St., mfg. plant, office and display room, to Fred L. Cipriano, 7117 Seaford Rd., Yeadon. Approx. **$68,000.** Karl F. Otto, 1528 Buckingham Dr., Rosemont, archt.

Pa., Pittsburgh—WAREHOUSE—American Radiator & Standard Sanitary Corp., Bessemer Bldg., 1 story, 200x350 ft., steel, brick, block, branch warehouse, Ridge Ave., to S. N. Siesel Constr. Co., 3529 Forbes St., Pittsburgh, **$500,000.** CD 12/19.

▲ **Tenn., Nashville**—BAKERY—American Bread Co., c/o Marr & Holman, archts., Stahlman Bldg., 2 story, 140x300 ft. bakery, to C. F. Rule Constr. Co., 217 13 Ave. N. Approx. **$1,000,000.** CD 3/22/48.

Tex., Acme—PLANT—Certain-Teed Products Corp., Quanah, mixture and packaging plant. Owner builds. Approx. **$275,000.** CD 1/6.

Tex., Big Spring—GARAGE etc.—McEwen Motor Co., Big Spring, auto garage, sales, service, to J. E. Sanders, Abilene. Approx. **$70,000.** Puckett & French, 607 Petroleum Bldg., archts.

Tex., Dallas—PLANT—Oak Farms, Ltd., 1100 N. Lancaster St., dairy products plant, to C. Burgher Constr. Co., 3027 Main St. Approx. **$474,000.** CD 1/16.

Tex., Fort Worth—WAREHOUSE—T. E. Mercer Distributing Co., 600 E. 5 St., warehouse, to Childs Constr. Co., 1708 Jones St. **$95,000.** CD 1/5, under LB.

Tex., Houston—PLANT—Allied Chain Link Fence Co., 425 W. 25 St., Unit 2, 70x200 ft., masonry main plant, concrete beam fdn., own forces. Approx. **$100,000.** CD 12/15.

Tex., Houston—PLANT—Quietaire Mfg. Co., 505 N. Hutchinson St., plant, to Howard Constr. Co., 442 N. Hutchinson St. **$81,100.**

Tex., Houston—WAREHOUSE—Tex-Ford Battery Co., 2002 Milby St., warehouse remodeling, warehouse addn., to C. O. Thomas, 2002 Milby St. Approx. **$70,000.**

▲ **Tex., Laredo**—POWER PLANT—Central Power & Light Co., 120 N. Chaparral St., Corpus Christi, electric power plant, to A. E. Hinman, Wilson Bldg., Corpus Christi, **$1,215,000.** Awarded 1/21. CD 1/6.

Tex., Munday—PLANT—Farmers Co-operative Gin Co., Munday, reconstruct cotton gin plant, own forces. Approx. **$80,000.**

Tex., San Antonio—MILL—Pioneer Flour Mills, 129 E. Guenther St., mill addn., to Chamberlain & Strain, Natl. Bank Commerce Bldg. Approx. **$75,000.** W. E. Simpson Co., 945 Milam Bldg., engr.

Tex., San Marcos—PLANT—The John Clark Industries, San Marcos, addnl. die plant unit, to Irwin-Newman Co., Cty Natl. Bank Bldg., Houston, **$75,000.** CD 12/28.

Va., Bristol—PLANT—Valleydale Meat Packing Co., c/o contractor, packing plant, to Martin Bros. Constr. Co., Roanoke. Approx. **$205,000.**

W. Va., Fairmount—WAREHOUSE—Owens Illinois Glass Co., Fairmont, 1 story warehouse, to Neighborgall Constr. Co., Huntington, **$700,000.** Bids 1/28. CD 11/23.

W. Va., Wheeling—WAREHOUSE—Sears, Roebuck C Co., c/o contractor, warehouse, to Seabright Constr. Co., Wheeling. Approx. **$85,000.**

Wis., DePere—WAREHOUSE—Nicolet Paper Co., DePere, 1 story, 100x200 ft., steel, concrete blocks, warehouse, concrete fdn. and floors, to C. R. Meyer & Sons Co., 50 State St., Oshkosh.

Wis., Milwaukee—FACTORY—L. J. Mueller Furnace Co., 2001, W. Oklahoma Ave., Zone 15, 1 story, 90x115 ft., steel, concrete blocks factory addn., concrete fdn. and floors, to H. Schmitt & Son, Inc., 930 E. Burleigh St., Zone 12. Approx. **$68,000.** W. E. Browne, 720 N. Jefferson St., Zone 2, engr.

UNCLASSIFIED

BIDS ASKED

† **Tenn., Nashville**—ELECTRICAL SYSTEM, etc.—B.A. 2/9—Bureau Yards & Docks, P. O. Box 365, Naval Base, Charleston, S. C., furnishing, labor, materials, and equip. to install addnl. machinery and extend electrical sys. at Naval Reserve Training Center, NOY 18530, Spec. 22335. CD 11/1.

La., Lake Charles—SWIMMING POOLS—B.A. 2/13—City, City Hall, 3 swimming pools, Dunn & Quinn, 827 Hodges St., engrs. Plans deposit $10. CD 12/30.

† **Ga., Atlanta**—FLOODLIGHTING SYSTEM—B.A. 2/14—U. S. Eng., P. O. Box 889, Savannah, floodlighting system for drill area at O.R.C. Armory 669, Ponce de Leon Ave. Inv. No. Eng-09-133-50-39.

Calif., San Francisco—MAINTENANCE YARD—B.A. 2/15—Dpt. P. Wks., City Hall, (1) general contract (2) plumbing and mechanical work (3) electrical work, maintenance yard, Spec. 743, at 2322 Army St. Approx. $50,000. Plans deposit (1) $25, (2 & 3) $10. Dodge A. Riedy, City Hall, city archt. CD 12/13.

Miss., Jackson—PARK BLDG—B.A. 2/15—City, auditorium in College Park, R. W. Naef, Masonic Bldg., archt.

† **California**—TRANSMISSION LINE—B.A. 2/16—Bureau Reclamation Elverta, 230 kilovolt double circuit transmission line between Madison and Rio Vista, Shasta—Tracy Nos. 1 and 2, Central Valley Proj., Solano Co., etc., Spec. 2883.

† **Mississippi and Louisiana**—ARTICULATED CONCRETE MATTRESS—B.A. 2/16—U. S. Eng., P. O. Box 60, Vicksburg, 150,000 sq. articulated concrete mattress, Greenville, Miss. Casting Field, 60,000 sq. articulated concrete mattress, Vidalia, Louisiana Casting Field, in connection with constr. bank protection works, Lower Mississippi River Valley.

† **Washington**—STRUCTURAL STEEL—B.A. 2/16—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars shipping point or f.o.b. cars Odair, Wash., fabricated structural steel for Grand Coulee Power Plant, Columbia Basin Proj., Spec. 2897. L. N. McClellan, ch. engr.

† **N. C., Fort Bragg**—BLEACHERS—B.A. About 2/17—U. S. Eng., 308 Customhouse, Wilmington, concrete bleachers, Inv. No. ENG-31-075-50-2.

New York—TRAFFIC SIGNAL SYSTEM—B.A. 3/1—At office Henry A. Cohen, dir. Bureau Contracts & Accounts, Albany, traffic signal sys. 0.79 mi. Batavia City, Main St., Proj. No. U706 (3), Contr. No. FAC 50-4. $19,000. Plans deposit $5; adv. ENR 2/2.

SOON LETS CONTRACT

Oklahoma—RURAL DISTRIBUTION LINES—East Central Co-operative Okmulgee, soon lets contract 204 mi. rural distr. lines in Muskogee Creek, Okmulgee and McIntosh Counties, $225,000. E. R. Taylor & Co., 4107 E. 11 St., Tulsa, engrs. CD 6/30.

LOW BIDDERS

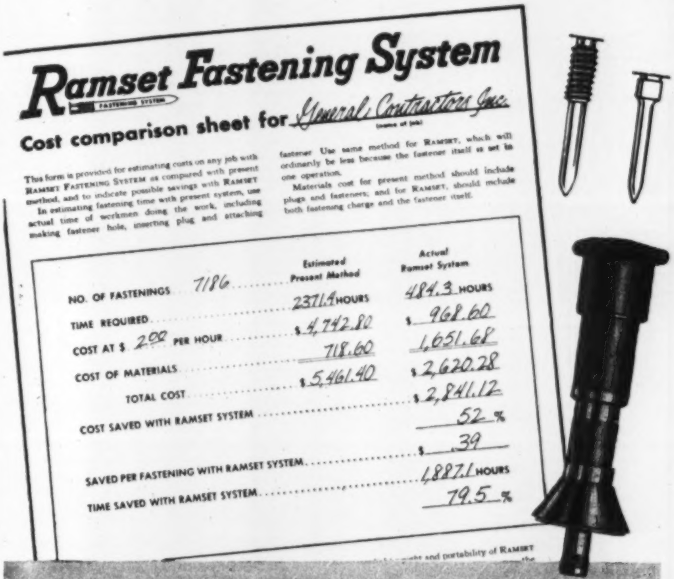
Ala., Tuscaloosa—STADIUM—University of Alabama, Tuscaloosa, Jan. 17, Denny Field Stadium addn., from Batson-Cook Co., West Point, Ga., **$244,460.** CD 12/14.

† **California**—TRANSMISSION LINE—Bureau Reclamation, Dpt. Interior, Box 2511, Sacramento, Jan. 12, 230 kilovolt transmission line, Shasta-Tracy No. 1 and 2, Cottonwood-Artois Section, Central Valley Proj., Spec. 2848, from Don. L. Cooney, Inc., 1749 Airport Way, Seattle, Wash., **$367,694.** CD 12/16.

Calif., Oakland—PLAYGROUND—City, City Hall, rejected bids Dec. 6, Bellevista Playground, Approx. **$50,000.** New bids 1/31. Charles Reed, City Hall, city engr. CD 12/13, under LB.

† **Fla., Green Cove Springs**—FLOATING DRYDOCK—Pub. Wks. Officer, Charleston Naval Base, S. C., Jan. 12, inactivation of floating drydock, from Oceanic Ship Scaling & Painting Co. of Georgia, Inc., 355 E. Broad St., Savannah, Ga., **$434,000.** CD 1/6.

† **Idaho**—POWER EQUIPMENT, etc.—Bureau Reclamation,—Dpt. Interior, Anderson Ranch, Idaho, Jan. 5, installing electrical and mechanical equip. for Anderson Ranch Power Plant, switchyard and outlet works, Boise Proj., Spec. 2852, from C. L. Electric Co. and



Ramset Fastening System

Cost comparison sheet for General Contractors Inc.
(name of job)

This form is provided for estimating costs on any job with Ramset Fastening System as compared with present method, and to indicate possible savings with Ramset method.

In estimating fastening time with present system, use actual time of workmen doing the work, including making fastener hole, inserting plug and attaching fastener. Use same method for Ramset, which will ordinarily be less because the fastener itself is set in one operation.

Materials cost for present method should include plugs and fasteners; and for Ramset, should include both fastening charge and the fastener itself.

	Estimated Present Method	Actual Ramset System
NO. OF FASTENINGS 7186		
TIME REQUIRED	2371.4 HOURS	484.3 HOURS
COST AT $ 2.00 PER HOUR	$ 4,742.80	$ 968.60
COST OF MATERIALS	718.60	1,651.68
TOTAL COST	$ 5,461.40	$ 2,620.28
COST SAVED WITH RAMSET SYSTEM		$ 2,841.12 52 %
SAVED PER FASTENING WITH RAMSET SYSTEM		$ .39
TIME SAVED WITH RAMSET SYSTEM		1887.1 HOURS 79.5 %

and portability of Ramset

$2,841.00 SAVED WITH Ramset

FASTENING SYSTEM

FOUR MINUTES per fastening (total time on job) with Ramset System instead of NINETEEN MINUTES with his old method saved this contractor $2,841.00 on one steel fastening job. Instead of slow, laborious, costly drilling—just load the self-powered, light, Ramset Fastening Tool. Then—READY! RAM! SET! Quick, easy, economical—and tight. *Actual fastening time, less than one minute per fastener!*

Compare *your* fastening costs into steel, concrete and other hard materials. See how much time and money you can save with the simple, lightning-fast Ramset System. With 65 sizes and types of drive pins and threaded studs, you can do almost any kind of construction fastening job.

Your local Ramset Specialist will help you cut costs and show you how to "Ramset" your way into more profitable business. Write or wire us collect for name of nearest representative.

Ramset System

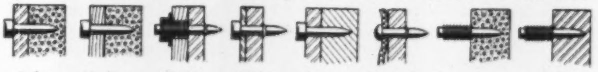
SAVES TIME . . . CUTS COST ON JOBS LIKE THESE:

Fastening—

- **Metal framework to walls, floors and ceilings.**
- **Supports to concrete, brick and steel.**
- **Wood sills to concrete.**
- **Metal roofs or walls.**
- **Wiring and conduits.**
- **False ceilings and lighting fixtures.**

Stemco Corporation • Cleveland 16, Ohio

FASTEN FASTER, EASIER, CHEAPER WITH RAMSET



Steel to concrete
Wood to concrete
Wood to steel
Steel to steel
Steel to brick
Fabricated hard materials to steel
Concrete penetration
Steel penetration

Vernon Brothers Co., 1406 Orchard St., Boise. **$179,645.** Est. $151,141. CD 12/14.

La., Baton Rouge—BASEBALL PARK—Baton Rouge Baseball Club, c/o Manson-McCain, Inc., archt., 8200 Florida St., Jan. 20, Sections 1, 2, 3, 6, baseball park, from A. Stevens, 2320 Iroguois St., **$115,556.** CD 1/18.

La., Colfax—NATURAL GAS SYSTEM—Town, rejected bids Oct. 7, natural gas sys., LB. **$275,837.** CD 10/17, under LB.

La., St. Martinsville—SWIMMING POOL, etc.—State Dpt. P. Wks., State Capitol, Baton Rouge, Jan. 18, swimming and wading pool at Longfellow-Evangeline State Park, from Robert Angell, Breaux Bridge, **$64,055.** CD 1/5.

Miss., Vicksburg—MOTOR COURT—Magnolia Hotel Co., c/o Raymond Birchett, archt., 2914 N. State St., Jackson, Jan. 12, motor court, from Prenshaw Constr. Co., 154 E. Porter St., Jackson, **$146,000.** CD 12/30.

New Mexico—RURAL DISTRIBUTION LINES—Continental Divide Electric Co-operative, Inc., Grants, Jan. 12, 193 mi. rural distr. lines, McKinley Co., from H. B. Zachry Constr. Co., Box 2570, San Antonio, Tex. **$302,954.** Est. $173,000. CD 12/14.

South Dakota and Nebraska—RURAL DISTRIBUTION LINES—Cherry-Todd Electric Co-operative, Valentine, Jan. 18, 540 mi. rural distr. lines, Todd and Mellette Counties, S. D. and Cherry Co., Nev., from J. R. Foree, Natl. Bank of Topeka Bldg., Topeka, Kan., **$534,705.** CD 1/6.

Tex., Houston—WHARF—Navigation Dist. Port Comn., Wharf 3, c/o W. F. Peavey, Houston, cancelled bids to have been opened Jan. 3, 60x500 ft. Wharf 16. **$375,000.** Will re-advertise. CD 12/1.

Tex., Muleshoe — ADMINISTRATION BLDG. — Muleshoe REA, c/o mgr., Muleshoe, administration bldg., from Dolph Constr. Co., 3901 Elm St., Dallas, **$63,700.** Est. $65,000. W. C. Hedrick, 1005 First Natl. Bank Bldg. Fort Worth, archt.

CONTRACTS AWARDED

Ark., Dyer—GAS LINE—Western Arkansas Gas Co., Fayetteville, gas line, day labor. **$53,000.**

Colo., Littleton — STABLES — Centennial Turf Club, Willard F. Tunney, mgr., Administration Bldg., 17 stables and 1 story, 40x96 ft. frame cafeteria, near here, to Industrial Constructors, 3860 Galagpao St., Denver, **$172,500.** Bids 1/9, awarded 1/15. CD 12/8.

Ga., Atlanta—DRIVE-IN THEATER—Owner, c/o contractor, drive-in theater, to Mathis Constr. Co., Lumpkin St., Athens. Approx. $60,000.

Idaho, Montana and Washington—RURAL DISTRIBUTION LINES—North Idaho Rural Electric Rehabilitation Assn., Inc., Sandpoint, Idaho, 168.87 mi. rural distr. lines, in Bonner and Boundary Counties, Idaho, Lincoln and Sanders Counties, Mont., and Pend Oreille Co., Wash. REA Proj. Ida. 4V Bonner, to S. H. Reither, Aitkin, Minn. **$250,857.** Bids 11/29. CD 11/18.

Ill., Chicago—GRANDSTAND—Chicago Club, National League Baseball, 400 N. Michigan St., Zone 11, grandstand at Baseball Park, Clark and Addison Sts., to C. W. Haynes, 135 S. LaSalle St., Zone 3, **$255,000.** Awarded 1/16. Westcott Eng. Co., 205 W. Wacker St., Zone 6, engr.

Indiana — RURAL DISTRIBUTION LINES — Indiana & Michigan Electric Co., J. Calvin Hill, div. mgr., South Bend, rebuilding 33,000-volt transmission line from Wallen Substation, north of Fort Wayne on State Rd. 3, through Garrett to Auburn, 18 mi. distant, to Hossier Eng., Co., 1001 Broadway, Fort Wayne. Approx **$221,000.**

▲ **Minn., St. Paul**—COLISEUM—State Dpt., Admin., P. T. Peterson, dir. Purchases, 19 State Capitol, general contract livestock coliseum (hippodrome) at State Fair Grounds, for Minn. State Agricultural Society, R. Lee, secy., Administration Bldg., to Fegles Constr. Co., 711 Wesley Temple Bldg., Minneapolis, **$1,093,714.** Bids 1/5. CD 1/11, under Public Bldgs. LB.

Nebraska — SUB-STATIONS — Eastern Nebraska Public Power Dist., Syracuse, electric sub-stations, at Nehawka, Humboldt, Brock, Cook and Verdon, to Line Constructors, Inc., 534 Benson Bldg., Sioux City, Ia., **$75,510.** Bids 1/12. CD 12/29.

Pa., Phila.—LIGHTING SYSTEM—Dpt. P. Wks., City Hall Annex, high power lighting sys., Contr. M-125, 26 and 34 Sts., Oregon Ave., etc. and Contr. M-124, Passyunk, Essington and Island Aves., to W. V. Pangborne & Co., Inc., 1927 Montgomery Ave., **$167,053** and **$179,652** respectively. Bids 12/30. CD 12/16.

Tex., Center—RADIO STATION—Center Broadcasting Co., Center, radio station, own forces. Approx. **$75,000.**

Tex., Corpus Christi—POWER LINES—Central Power & Light Co., 120 N. Chapparral St., Unit 1, electric power lines, force account, **$500,000.** CD 1/9.

Tex., Dallas—GAS LINE—Lone Star Gas Co., 1915 Wood St., 17,985 lin. ft. 10 in. gas line, vicinity Rylie community, Purchase and Hire. Approx. **$56,000.**

Tex., Dallas—GAS MAINS—Lone Star Gas Co., 1915 Wood St., Lancaster Rd., gas mains, force account. Approx. **$200,704.** CD 5/1/47.

Tex., Denison—POWER LINE—Texas Power & Light Co., Interurban Bldg., Dallas, 60,000 volt power line loop around city, force account. $110,000. CD 1/12.

Tex., San Antonio—TRANSMITTER STATION—K. O. N. O. Radio station, 317 Arden Grove, radio transmitter station, to Frank McGee, 118 W. Grayson St. Approx. **$75,000.**

Proposal Advertisements see pp. 90 to 92

U. S. Government

Office of the District Engineer, Corps of Engineers, U. S. Army, 1217 U. S. Post Office and Custom House, St. Paul 1, Minnesota.—Sealed bids, in duplicate, for furnishing all labor and materials and performing all work required for Upper Approach Channel Dredging, Lock and Dam No. 10, Mississippi River, Guttenberg, Iowa, will be received in this office until 11:00 A.M., C.S.T., 23 February 1950, and then publicly opened. Further information upon application. (577)

Office of the District Engineer, Corps of Engineers, U. S. Army, 1217 U. S. Post Office and Custom House, St. Paul 1, Minnesota.—Sealed bids, in duplicate, for furnishing all labor and materials and performing all work required for Channel Improvement on Red Lake River, Minnesota, Stage No. 3, will be received in this office until 11:00 A.M., C.S.T., 21 February 1950 and then publicly opened. Further information upon application. (576)

OFFICIAL PROPOSALS

Bids: February 20, 1950 (539)

Hudson River Pumping Plant

CONTRACT 427

SEALED BIDS will be received by the Board of Water Supply, at its offices, thirteenth floor, 120 Wall Street, New York City, until 11:00 A.M., Eastern Standard Time, on Monday, February 20, 1950, for Contract 427, for designs, construction and installations necessary to establish at Shaft 6 of the Delaware aqueduct, complete with all equipment and appurtenances and ready for use, an electrically-operated or a direct-connected, Diesel-operated pumping plant capable of pumping 100 million gallons per day of water from the Hudson river into the Delaware aqueduct against a head of 600 feet, and a chlorinating plant capable of satisfactorily sterilizing the pumped water before it enters the aqueduct, together with suitable buildings for housing said plants; and for the operation of said plants for a period not to exceed four months subsequent to their completion, all located near Chelsea, Town of Wappinger, Dutchess county, New York.

No bid will be received and deposited unless accompanied by a certified check upon a National or State bank, drawn and made payable to the order of the Comptroller of The City of New York, in the amount of one hundred and fifty thousand dollars ($150,000.00), for the proper execution of the contract.

At the above place and time the bids will be publicly opened and read. Pamphlets containing information for bidders, forms of bid and contract, specifications, contract drawings, requirements as to surety, etc., can be obtained at the office of the Chief Engineer, Room 1311, at the above address, upon application in person or by mail, by depositing the sum of five dollars ($5.00) in cash or its equivalent for each pamphlet. Within 30 days following the award of contract or rejection of bids, the full amount of such deposit will be refunded for each pamphlet submitted as a bid and a refund of four dollars ($4.00) will be made for each other pamphlet returned in acceptable condition. Arrangements will be made whereby prospective bidders desiring blueprints of the contract drawings for their own use may secure same, the cost thereof to be paid by them. For further particulars, apply at the office of the Chief Engineer at the above address.

IRVING V. A. HUIE, President, HENRY HESTERBERG, RUFUS E. McGAHEN, Commissioners, Board of Water Supply; RICHARD H. BURKE, Secretary.

Bids: February 20, 1950 (538)

Reconstruction of Expansion Dams and Interior Lanes

THE DELAWARE RIVER JOINT COMMISSION
Administration Building
Camden, New Jersey

Sealed bids will be received for reconstruction of existing expansion dams and resurfacing the six interior lanes of roadway on the Philadelphia and Camden Approaches of the Delaware River Bridge between Philadelphia, Pa. and Camden, New Jersey, to be identified as *Contract No. 7*, at the office of the Secretary of The Delaware River Joint Commission, Administration Building, Bridge Plaza, Camden, New Jersey, until 1:30 P. M. Eastern Standard Time, Monday, February 20, 1950 and then and there will be publicly opened and read.

OFFICIAL PROPOSALS

A more complete description of the work and full information for bidders are given in the Contract Documents and Specifications for this contract, which may be obtained upon a deposit of $10.00 which will be remitted upon receipt of bid or the return in good condition of the copies so taken within thirty days after the opening of bids.

Each proposal must be accompanied by a certified or cashier's check in the sum of $20,000 payable to The Delaware River Joint Commission and drawn upon a national or state bank or trust company having an office either in Philadelphia, Pennsylvania or Camden, New Jersey and the surety's consent must be shown. The bidder to whom the contract is awarded will be required to furnish a Performance and Labor and Materialmen's Bond in the sum of 100 per cent.

The Commission will afford prospective bidders an opportunity to inspect the work to be done.

The right is reserved to reject any or all bids.

THE DELAWARE RIVER
JOINT COMMISSION
JOSEPH K. COSTELLO
SECRETARY.

Bids: February 16, 1950 (534)

Repaving & Widening Traffic Circle

STATE OF NEW JERSEY
STATE HIGHWAY DEPARTMENT
TRENTON

NOTICE IS HEREBY GIVEN that sealed bids will be received by the State Highway Commissioner for:

ROUTE 1, SECTION 16

Repaving and Widening, from Ridgefield Traffic Circle to Fairview Avenue, in the Boroughs of Ridgefield and Fairview, Bergen County. Length 0.869 miles.

Estimated:

Roadway Items

12,300	cu. yds. Roadway Excavation Unclassified
19,800	sq. yds. Pavement Excavation
22,600	sq. yds. 5" Macadam Base Course
9,400	Tons Pavement Type MA-BC-2

Bridge Items

4	cu. yds. Concrete in Structures
620	Lbs. Rein. Steel in Structures

Bids for the above will be received at the office of the State Highway Department, Room 102, State House Annex, Trenton, New Jersey, on Thursday, February 16, 1950, at eleven o'clock (11:00 A.M.—EASTERN STANDARD TIME), and will be opened and read immediately thereafter.

The receipt and opening of bids is subject to the proper qualification of the bidder in accordance with the provisions of the prequalification law and the regulations adopted by the State Highway Commissioner. Bidders must also submit a revised financial statement and statement of plant and equipment with their bid.

Drawings, specifications and form of bid, contract and bond for the proposed work are on file in the office of the State Highway Department, Trenton, N. J. and may be inspected by prospective bidders during office hours. Plans will be furnished on a deposit of Ten Dollars ($10.00) for each set of plans upon application to A. Lee Grover, Chief Clerk, State Highway Department, Room 102, State House Annex, Trenton, N. J. Bids must be made upon the standard proposal forms in the manner designated in the standard State Highway specifications and must be enclosed in sealed special addressed envelopes bearing the name and address of the bidder and work bid upon on the outside, and must be accompanied by a certified check drawn to the order of the Treasurer of the State of New Jersey for not less than ten percent (10%) of the amount of the bid, provided that the said certified check shall not be less than $500.00 nor more than $20,000.00 and must be delivered at the above place on or before the hour named. Copies of the standard proposal forms and special addressed envelopes will be furnished on application. Bids not enclosed in sealed special addressed envelopes will be considered informal and will not be opened. The right is reserved to reject any or all bids.

Signed: Spencer Miller, Jr.
State Highway Commissioner

(Continued on page 91)

U. S. Government

(Continued from page 90)

U. S. ARMY, CORPS OF ENGINEERS, NEW ENGLAND DIVISION Army Base, Boston 10, Mass. Inv. No. Eng-19-016-50-2. Sealed bids will be received at this office until 2:00 P M., February 7, 1950, and then publicly opened for Construction of a Veterans Administration Hospital, 1000 bed General Medical, Boston, Massachusetts, in accordance with specifications and plans, copies of which are available at this office. Deposit required of $100.00 per set for blueprints, which will be issued to General Contractors only, $35.00 for half-size reproductions, and $25.00 for specifications, in form of certified check or postal money order payable to "Treasurer of the United States". (481)

Department of Commerce, Bureau of Public Roads, January 19, 1950. SEALED BIDS will be received at the office of Bureau of Public Roads, Gatlinburg, Tennessee, until 1:30 p.m., E.S.T., FEBRUARY 24, 1950, for the construction of Project 3A8-B10, Great Smoky Mountains National Park, Sevier and Blount Counties, Tennessee Length 0.767 miles. The approximate quantities of the more important items are 7.7 miles Reconditioning of Used Roadbed and 15,500 tons Type 1-1 Hot Asphalt Concrete Pavement. Minimum wage rates have been fixed as required by law. For plans and specifications, a deposit of $10 cash or certified check will be required to insure their return within 15 days after opening of bids. Plans, specifications and proposal forms may be obtained from the office of the Division of Engineer, 1440 Columbia Pike, Arlington, Virginia or from the address given above. H. J. Spelman, Division Engineer. (531)

"Opportunity" Advertising:
Think
"SEARCHLIGHT"
First

OFFICIAL PROPOSALS

Bids: March 9, 1950 (535)

Sewage System & Sewage Treatment Plant

NOTICE TO BIDDERS

WHITE SULPHUR SPRINGS SEWER DISTRICT IN THE TOWN OF LIBERTY, SULLIVAN COUNTY, NEW YORK

NOTICE IS HEREBY GIVEN that the Town Board of the Town of Liberty will meet at the office of the Town Clerk in the Sherwood Building in the Village of Liberty, New York, at eight o'clock P. M. on the 9th day of March, 1950, for the purpose of receiving sealed proposals for furnishing materials and equipment and performing labor for the construction of a sewage system and sewage treatment plant and appurtenances, for the White Sulphur Springs Sewer District in the Town of Liberty, at which time and place all proposals will then be publicly opened and read aloud.

The work will be divided into two sections or contracts, and separate proposals will be received for the two parts of the project, as follows:

CONTRACT NO. 1
SEWAGE SYSTEM, including 21,000 lineal feet of 8-inch to 10-inch Sewers, 78 Manholes, and other appurtenances.

CONTRACT NO. 2
SEWAGE TREATMENT PLANT including Control Building with pump Station and Chlorinator, Primary and Secondary Settling Tanks, Primary and Secondary Trickling Filters, Sludge Digester, Sludge Drying Beds, Manhole, Piping, Specified Equipment and appurtenances.

Form of bids, Plans, Specifications and Estimates of the Expense, Proposed Contract Forms, and Forms of Proposal and performance Bond may be examined and copies thereof obtained at the offices of Nial Sherwood, C. E., Sherwood Building, Liberty, New York.

A payment of twelve dollars for each set of plans and specifications for Contract No. 1 shall be made on delivery of such sets. No refund will be made.

A payment of thirty dollars shall be made on delivery of each set of plans and specifications for Contract No. 2. Such payment will be returned to all actual bidders, who return plans and specifications within ten days of the opening of the bids. No refund will be made to non-bidders.

Each proposal must be accompanied by a certified check, payable to the order of Francis A. Hanofee, Supervisor, in the amount of five (5) per cent of the total amount of the bid, or a bond with sufficient sureties in the penal sum equal to the above stated amount, conditioned that if the proposal is accepted, the bidder will enter into a contract for the execution of the work and that he will execute such further security as may be required for the faithful performance of the contract. All deposits except those of the successful bidders will be returned.

The Town Board reserves the right to reject any or all bids.

Dated at Liberty, New York,
January 12th, 1950.
TOWN BOARD OF THE TOWN OF LIBERTY,
FRANCIS HANOFEE,
Supervisor.
WHITAKER WELLS,
Town Clerk.

Bids: March 13, 1950 (502)

Improvements to Pumping Station

CITY OF EAST ORANGE, NEW JERSEY

Sealed bids will be received by the Board of Water Commissioners of The City of East Orange, New Jersey, until 8 o'clock, P.M., March 13, 1950, at the office of the Board of Water Commissioners, City Hall, East Orange, New Jersey, for furnishing materials and performing the labor for mechanical improvements to the White Oak Ridge Pumping Station.

Copies of the Plans and Specifications may be obtained at the office of the Board of Water Commissioners or at the office of Buck, Seifert and Jost, Consulting Engineers, 112 East 19th Street, New York 3, N. Y., upon deposit of Twenty-five ($25.00) Dollars, which sum will be refunded, upon return of the plans and specifications in good condition within ten (10) days after the date on which bids are received.

The work to be performed is divided into four (4) sections. The principal items of work are:

SECTION A: PUMPING EQUIPMENT AND STRUCTURES, furnishing and installing two (2) electric motor driven centrifugal pumping units, two (2) gasoline engine driven centrifugal pumping units and one (1) gasoline engine driven generator unit together with all piping, valves, gauges and alterations to existing piping and equipment; removing existing steam pumping equipment, piping and appurtenances and constructing alterations to the existing pumping station.

SECTION B: ELECTRICAL EQUIPMENT AND WIRING, furnishing and installing transformer sub-station, switchboard, starting and control equipment and power, control and light wiring and appurtenances.

SECTION C: HEATING, furnishing and installing a two (2) zone oil-fired circulating hot water heating system complete with boiler, piping and appurtenances.

SECTION D: PLUMBING, furnishing and installing plumbing fixtures, piping and accessories.

Each proposal must be accompanied by a certified check or bid bond equal to fifteen (15%) per cent of the proposal. The certified check will be retained to pay for any damage or loss to the Commissioners, or the liability bond will accrue in case the successful bidder shall neglect or refuse to enter into a contract in accordance with his proposal.

The Commissioners reserve the right to consider bids for thirty (30) days after their receipt before awarding any contract and the right is reserved to accept any bid or to reject any or all of them.

BOARD OF WATER COMMISSIONERS
CITY OF EAST ORANGE, NEW JERSEY
MAJOR TALI E. WATERS, President
EARLE R. MATH, Vice President
ALBERT C. WEIGEL, Commissioner
ROSWELL M. ROPER, Engineer, General Manager and Secretary
BUCK, SEIFERT AND JOST
CONSULTING ENGINEERS

(Continued on page 92)

OFFICIAL PROPOSALS

Bids: March 1, 1950 (525)

State Road Work

NOTICE TO CONTRACTORS: STATE DEPARTMENT OF PUBLIC WORKS, ALBANY, N. Y.—Pursuant to the provisions of Chapter 63, Laws of 1936, as amended, and special provisions for projects financed with federal aid funds, sealed proposals will be received until ten-thirty o'clock A.M., eastern standard time on March 1, 1950 by Henry A. Cohen, Director, Bureau of Contracts & Accounts, 14th Floor, The Governor Alfred E. Smith State Office Building, Albany, N. Y., for the following projects: Maps, plans, specifications and proposal forms may be seen and obtained at the office of the State Department of Public Works, Bureau of Contracts & Accounts, Albany, N. Y., and at the office of the District Engineers noted below, and may also be seen at the office of the State Department of Public Works, 270 Broadway, New York City.

The deposit for plans and proposal forms for each contract containing 1 to 15 sheets is $5.00; 16 to 30 sheets, $10.00; over 30 sheets, $20.00. A refund will be made in full to bidders for the return of one set in good condition within 30 days of award or rejection of bids; refund for all other sets in good condition, similar period, will be 50% of deposit.

County	Contract No.	Name	Miles	Type	Deposit	Estimated Cost of Work
		DISTRICT No. 3 Wm. Robinson, Dist. Engr., 301 E. Water St., Syracuse, N. Y.				
Onondaga	FG C 50-3 FG RC50-2 FG RC SS50-3	Elim. of Grade Xing of the N. Y. C. R. R. with: City of Syracuse: James St.; Eastwood Village, S. H. 896; James St., S. H. 9; Thompson S. H. 429 & Thompson Road, D. A. S. S. 43-4 Proj. No. UG 1094(1)	0.95	9" Cem. Conc. Pavt. 52' & Var. Widen. = 0.40 Mi. Asp. Conc. Type 2A = 0.55 Mi. Alpha I-Beam 64' 6" Alpha $259	$50,000 Plans $10	$860,000
		DISTRICT No. 4 A. R. Mulligan, Dist. Engr., Barge Canal Term., Rochester, N. Y.				
Genesee	**FAC 50-4**	Batavia City: Main St., Proj. No. U706(3)	0.79	Traffic Signal System	$1,000 Plans $5	$19,000
		DISTRICT No. 7 R. F. Hall, 444 VanDuzee Street, Watertown, N. Y.				
Jefferson	**PSC 6591**	Elim. of Grade Crossing of the N. Y. C. R. R. and West Main St.: City of Watertown	0.23	8" Cem. Conc. Pavt. 2 at 24' Wide I-Beam, 2 Span 32' Each	$26,000 Plans $20	$490,000
		DISTRICT No. 8 J. S. Bixby, Dist. Engr., Pleasant Valley Rd., Poughkeepsie, N. Y.				
Rockland	FASS 50-2 RC 50-4	New Hempstead Road-Roberts Road; Coyles Corners-Short Clove, S. H. 9005 Proj. S 311(1)	2.60	Asphalt Conc. Opt.	$21,000 Plans $10	$360,000

Proposal for each contract must be submitted in a separate sealed envelope with the name and number of the contract plainly endorsed on the outside of the envelope. Each proposal must be accompanied by cash, draft or certified check payable to the order of "State of New York, Commissioner of Taxation & Finance" for the sum as specified in the advertisement and the proposal. The retention and disposal of the bidding check, the execution of the contract and bonds shall conform to the provisions of the Highway Law, as set forth in "Instructions to Bidders".

When optional types are permitted on contracts with federal funds, bidders must state in the space provided in the proposal the exact designation of the optional type upon which the proposal is predicated.

The right is reserved to reject any or all bids.

B. D. TALLAMY
Supt. of Public Works

OFFICIAL PROPOSALS

(Continued from page 91)

Bids: February 23, 1950 (507)

Construction of Sewage Works

TOWN OF FAIRFIELD
CONNECTICUT
NOTICE TO CONTRACTORS

Sealed Proposals for construction of Sewage Works will be received by the Purchasing Authority and the Sewer Commission at the office of the Board of Selectmen, in the Town Hall, 611 Old Post Road, Fairfield, Connecticut, until 2:30 P. M. Eastern Standard Time on February 23, 1950, and then publicly opened and read. No proposal will be accepted after said hours. Proposals will be received on the following contracts:

Contract II—Sewage Treatment Plant

Contract III—Outfall Sewer

Information for Bidders, Proposal forms, Specimen Contract, Plans and Specifications and copies or specimens of all pertinent documents may be examined at the offices of Bowe, Albertson & Associates, Engineers, 110 William Street, New York City, New York, and at the office of the Town Engineer, Silliman School, 608 Jennings Road, Fairfield, Connecticut, between the hours of 10 A. M. and 4 P. M. daily except Saturdays, Sundays and holidays, and obtained upon making a deposit of fifteen ($15.00) dollars, which will be refunded within thirty (30) days after the date when the proposals are opened, upon return of the aforementioned data, undamaged.

A bid bond in the amount of 10% of each bid must be submitted by the bidder with his bid as a guarantee that, in case the contract is awarded to him, he will, within ten days thereafter, execute such contract, and furnish a satisfactory Performance and Labor and Material Bond.

The successful bidder will be required to furnish a Performance and Labor and Material Bond in the full amount of the bid, satisfactory to the Sewer Commission as to form and sureties.

The Town of Fairfield reserves the right to reject all bids. Bids which are irregular in form, incomplete, conditional or qualified may be disregarded and rejected as improper except that the Purchasing Authority and the Sewer Commission may waive any defects or irregularities.

PURCHASING AUTHORITY
TOWN OF FAIRFIELD
By Dimill L. Kinnie
First Selectman
SEWER COMMISSION,
TOWN OF FAIRFIELD
By: Abner Mitchell
Chairman
BOWE, ALBERTSON & ASSOCIATES
Engineers

Bids: February 20, 1950 (529)

Construction of a House Sewer

CORPORATION NOTICE
CITY OF YONKERS

PROPOSALS FOR THE CONSTRUCTION OF A HOUSE SEWER IN SUNNYBROOK—SECTION ONE BETWEEN PALMER ROAD AND CENTRAL PARK AVENUE.

Office of the
Board of Contract and Supply
Yonkers, New York January 20th, 1950.

Pursuant to Special Ordinance No. 5, 1949, sealed proposals will be received at the Office of the Secretary of the Board of Contract and Supply, Room No. 316, City Hall, Yonkers, New York, until 2:00 o'clock P. M., (EASTERN STANDARD TIME) Monday, February 20th, 1950.

Copies of Information for Bidders, Form of Proposals, Form of Contract, including Specifications for the aforesaid Sewer may be obtained at the Office of the Board of Contract and Supply, and only bids made upon said forms will be accepted. Copies may be obtained upon deposit of $10.00 (CASH OR CERTIFIED CHECK) which will be refunded to each bidder who bids, or returns the Specifications unused, within Ten (10) days after the opening of Bids.

Dated: January 20th, 1950.
FRANK VAN BLARCOM
Secretary of the Board of
Contract and Supply

OFFICIAL PROPOSALS

Bids: February 14, 1950 (524)

Manufacture & Delivery of Pipes & Fittings

Notice to Bidders

Sealed proposals for the manufacture and delivery of approximately 34,580 lineal feet of 48-inch, 9500 lineal feet of 36-inch and 3300 lineal feet of 24-inch pipe and fittings for additional water supply will be received by the City Purchasing Agent at his office, Room 36, City Hall, No. 20 South Fitzhugh Street, Rochester, N. Y., until 11:00 o'clock A.M., Eastrn Standard tme on February 14, 1950, at which place and time they will be publicly opened and read aloud.

Bids will be accepted on Reinforced concrete steel cylinder type pipe, Prestressed Reinforced concrete steel cylinder type pipe and Electric Fusion Welded steel water pipe with cement mortar lining.

Plan, Bidding sheets, Specifications and Contract may be examined at the office of the Purchasing Agent, and copies obtained upon payment of $25.00 per set, which money will be refunded, providing the plans are returned in good condition within ten days after date of opening.

All bids shall be made on the form provided in the contract documents and shall be accompanied by a certified check for an amount equal to five per cent (5%) of the total amount of the bid, payable to the City of Rochester, N. Y., as a guarantee that the bidder will execute the contract within 10 days after being notified that his bid has been accepted.

No proposal will be accepted by the City unless the Bidder shall have filed with the Purchasing Agent, at least seven days prior to the date set for opening of bids a certified statement showing financial responsibility, experience, plant and equipment on a form supplied by the City Comptroller and available at the office of the Purchasing Agent.

OFFICIAL PROPOSALS

The Purchasing Agent reserves the right to reject any or all bids.

FRED W. ERETH
Purchasing Agent
Dated: Jan. 26, 1950.

U. S. Government

Department of Commerce, Bureau of Public Roads, January 18, 1950. SEALED BIDS will be received at the office of the Division Engineer, Bureau of Public Roads, 1440 Columbia Pike, Arlington, Virginia, until 10:00 a.m. E.S.T., FEBRUARY 21, 1950, for the construction of Project 6A17, Part B, George Washington Memorial Parkway, Arlington County, Virginia. The approximate quantities of the more important items are 4,500 sq. yd. Plain Cement Concrete Base Course on 0.376 mile; 48,000 sq. yd. Reinforced Cement Concrete Pavement on 1.627 miles and 33,825 lin. ft. Concrete Curb. Minimum wage rates have been fixed as required by law. For plans and specifications, a deposit of $10.00 cash or certified check made payable to the Treasurer of the United States will be required to insure their return within 15 days after the opening of bids. Plans, specifications and proposal forms may be obtained at the address given above. H. J. Spelman, Division Engineer.

(532)

UNITED STATES DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Specifications No. 2896) will be received by Bureau of Reclamation, Denver, Colorado, February 21, 1950, and then publicly opened for furnishing 15 traveling water screens complete with screen drive, splash housing, and appurtenances for Friant-Kern Canal Distribution System, Central Valley Project, California. Delivery is desired within 90 days. For particulars, address Bureau of Reclamation, Building 1-A, Denver Federal Center, Denver, Colorado.

MICHAEL W. STRAUS, Commissioner
(533)

SEARCHLIGHT SECTION

(Classified Advertising)

EMPLOYMENT: "OPPORTUNITIES" :EQUIPMENT
BUSINESS: :USED OR RESALE

REPLIES (Box No.): Address to office nearest you
NEW YORK: 330 W. 42nd St. (18)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

POSITIONS VACANT

CONTRACTING FIRM operating throughout southwestern United States has attractive offer open for general manager. Experience in highway and general construction required. Applicants mail experience record, personal history and salary requirements to P-2084, Engineering News-Record.

CONTRACTOR'S ENGINEER — Estimator. Thoroughly experienced in office and field in heavy construction work. Eastern area. Write full qualifications and salary experience. P-1934, Engineering News-Record.

STRUCTURAL STEEL Detailer for buildings, at least two years experience. Civil graduate preferred. Top Salary. Full information, work samples and snap shot required. Soule Steel & Iron Co., Charlotte, N. C.

WANTED, SEVERAL engineering graduates, under 35, by large industrial fire prevention organization maintained by national insurance group, for field work involving periodic inspections and special consulting service. Permanent. P-1994, Engineering News-Record.

CARPENTER FOREMAN—Superintendent for reinforced concrete bldg. construction. Write experience and salary expected. P-2060, Engineering News-Record.

CHIEF ESTIMATOR capable of taking charge of estimating department for general contractor in Northwestern Ohio. In replying give full qualifications, experience and salary wanted. Address P-2033, Engineering News-Record.

POSITIONS VACANT

THOROUGHLY EXPERIENCED Hydraulic Dredge Master for new 8" Dredge. Top salary, bonus and opportunities. Long contract and plenty of work. Owner has other interests. Don't apply unless your references will stand strict investigation. Give detailed experience. P.O. Box 241, Westbrook, Conn.

DETAILER EXPERIENCED in preparing details for structural steel for bridges and buildings. Steady employment with one of the largest steel fabricators in the Southwest. State experience, references, age and salary requirements. P-2139, Engineering News-Record.

ESTIMATOR WANTED by General Contracting Firm located in Kansas. Applicant to be under 45 years of age, experienced in estimating all types of General Building Construction. If interested, advise age, education, experience and salary desired. P-2099, Engineering News-Record.

WANTED—CIVIL Engineer with experience in design of Municipal work, such as, water systems, sewerage, municipal structures, etc. Experience desirable. First letter state age, experience, references, and salary required. P-2167, Engineering News-Record.

EMPLOYMENT SERVICES

SALARIED PERSONNEL, $3,000-$25,000. This confidential service, established 1927, is geared to needs of high grade men who seek a change of connection under conditions assuring, if employed, full protection to present position. Send name and address only for details. Personal consultation invited. Jira Thayer Jennings, Dept. L, 241 Orange St., New Haven, Conn.

(Continued on page 93)

SALARIED POSITIONS $3,500—$35,000

If you are considering a new connection communicate with the undersigned. We offer the original personal employment service (40 years recognized standing and reputation). The procedure, of highest ethical standards, is individualized to your personal requirements and develops overtures without initiative on your part. Your identity covered and present position protected. Send only name and address for details.

R. W. BIXBY, Inc., 272 Dun Bldg., Buffalo 2, N.Y.

(Continued from page 92)

POSITIONS WANTED

CHIEF ESTIMATOR for General Contractor Available. Experienced all types General Construction. Current volume $60,000,000 per annum. Base salary $12,000 per year. Excellent references. PW-1813, Engineering News-Record.

CONSTRUCTION SUPERINTENDENT. 18 years experience, heavy grading projects, earthen dams, airports, flood control. Can completely manage business in this field. PW-1875, Engineering News-Record.

CONSTRUCTION SUPERINTENDENT or Project Manager. Over 15 years experience; Industrial, Commercial, and Governmental work. Guarantee satisfactory service. Excellent references. PW-1896, Engineering News-Record.

ACCOUNTING, BOOKKEEPING, payroll and tax service. Weekly, monthly, special assignments. Metropolitan area. PW-1887, Engineering News-Record.

PRESSURE GROUTING SUPT. Available with experienced men. Or will train your crew. PW-1816, Engineering News-Record.

EXPEDITER AND/or Scheduling Engineer. Over 15 years diversified experience; Industrial, Commercial, Governmental, and Institutional expansion programs. Guarantee satisfactory service and excellent past record. PW-2071, Engineering News-Record.

CIVIL ENGINEER — Executive. Registered P.E., N.Y. Thirty-five years broad experience, about twenty of which in responsible charge field and office on highways, municipal and general construction in Latin America and Far East. Fluent Spanish. Excellent credentials. Available for foreign assignment. Thuman, P.O. Box 126, Merrit Island, Fla.

OWNERS REPRESENTATIVE. Guarantee contractor's complete compliance with owner's requirements. Over 15 years' experience; including construction superintendent with reputable contractors and major industries. PW-1894, Engineering News-Record.

CIVIL-STRUCTURAL Engineer, 38 yrs. of age, wide experience in design and supervision of construction industrial, commercial and institution buildings, municipalities and water front structures. Available for position of project, resident or city engineer. PW-2092, Engineering News-Record.

BUILDING SUPERVISOR, Party Chief, Architects Representative—wants work in Latin America with contractor or architect. A-1 reference. Single—age 46. Box 801, Coral Gables, Florida.

ASSISTANT CONSTRUCTION Superintendent —age 43, married, registered civil engineer. 21 years varied experience in grades to resident engineer on hydro-steam power plants, steel mills, railroad bridges; hydro design; shipbuilding rigging designing; geodetic, construction, land surveys. Southeastern, mid-eastern locations preferred. Available short notice. PW-2090. Engineering News-Record.

ENGINEER SPECIALIZED in design of reinforced concrete under heat, inclusive atomic pile. PW-2136, Engineering News-Record.

CIVIL ENGINEER, 31, Junior ASCE, married, eight years diversified experience in heavy construction and dredging, both field and office. Chief Field Engineer on bridge construction and Superintendent on water supply and distribution project. Desires position with firm operating in vicinity of Northern N. J., but will consider other locations. PW-2089, Engineering News-Record.

SANITARY ENGINEER Illinois and Indiana registration. Complete knowledge of business management, industrial waste and water surveys, design of water treatment and waste treatment plants; supervision of construction. Have vast knowledge regarding utilities operations and problems and have at present a large volume of national and international business contacts. Address replies to PW-2017, Engineering News-Record.

MANAGER OR Superintendent. Dams, Bridges and Marine Construction. Twenty-five years experience. Practical and engineering background. Member ASCE. Available soon. PW-2115, Engineering News-Record.

STRUCTURAL DESIGNER—B.C.E., Age 25, Single. Four years experience designing reinforced concrete and structural steel industrial buildings. Prefer eastern location. PW-2114, Engineering News-Record.

CIVIL ENGINEER-Executive. Registered. 15 years diversified field and office experience, specializing in administration and contractural relations on buildings, bridges, roads, and utilities. Available March 1st. PW-2145, Engineering News-Record.

CONSTRUCTION SUPT.; 32; registered Civil Engineer. Diversified experience includes field supervision of heavy and building const. presently estimating. Desire affiliation with general contractor where opportunity exists for responsible const. supt. position. PW-2130, Engineering News-Record.

WANTED

MECHANICAL ENGINEER

Established consulting firm, New York area, desires Mechanical Engineer, capable supervising starting, testing, operating and correcting troubles of steam-electric station equipment. Plant betterment work involving considerable travelling. Technical education, and plant operating or betterment experience required. State education, experience and salary desired.

P-2062, Engineering News-Record
330 W. 42nd St., New York 18, N. Y.

CONSTRUCTION SUPT.

TECHNICAL SCHOOL OR ENG GRAD
Wanted By Large Company

Must be expd in building & equipment installation. Chemical plant expce preferred. Man must be free to travel in U.S. Give age, education, detailed experience, and salary expected.

Write Box ER998, Equity, 221 W. 41 St. N. Y.

WANTED

BRIDGE DESIGNERS, DESIGNER DRAFTSMEN, RESIDENT HIGHWAY ENGINEERS, SOILS ENGINEER

Experienced men wanted. State qualifications, age, salary and date available in first letter. Construction period, 24 months. Location, Eastern or Western Pennsylvania.

P-1617, Engineering News-Record
330 West 42nd St., New York 18, N. Y.

SUPERINTENDENT/MANAGER

Expanding construction firm located in Northern Ohio specializing in Water and Sewage Treatment Plants has opening for A-1 project superintendent or manager. Give age, experience, references, and salary expected. Also include photograph if possible.

P-2069, Engineering News-Record
520 N. Michigan Ave., Chicago 11, Ill.

MECHANICAL DETAIL ASSIST.

Expanding construction firm located in Northern Ohio specializing in Water and Sewage Treatment Plants has opening for mechanical detail assistant. State age, experience, references, salary expected and include photograph if possible.

P-2070, Engineering News-Record
520 N. Michigan Ave., Chicago 11, Ill.

STRUCTURAL STEEL ESTIMATOR

Well known New England fabricating company has an exceptional opening for young experienced structural steel estimator. A real opportunity exists for a man with estimating and sales ability. Give in detail experience, education, etc. References will be required. Replies held strictly confidential.

P-2133, Engineering News-Record
330 West 42nd St., New York 18, N. Y.

Millwork Salesman

Experienced—acquainted with large scale housing contractors. Large old established millwork manufacturer. Commission basis. *Write fully,*

Box #518,
Suite 617, 1457 Broadway NYC

TECHNICAL SALES REPRESENTATIVE

Large Midwest marketer of asphalt desires technical sales representative under 40, preferably 25-35, with engineering education and experience in application of asphalt for industrial uses as well as road building. State qualifications and starting salary in reply.

RW-2108, Engineering News-Record
520 N. Michigan Ave., Chicago 11, Ill.

Don't forget the

BOX NUMBER

When answering the classified advertisements in this magazine don't forget to put the box number on your envelope. It is our only means of identifying the advertisement you are answering.

WANTED

ENGINEER

to supervise design for major city street paving and drainage programs. Must be graduate engineer, not less than five years experience in this field, fully qualified to assume direct charge under chief engineer. Immediate. Salary commensurate with qualifications. Permanent employment in Gulf Coast Area. Reply P-2153.

◆ ◆ ◆

DESIGNING ENGINEER

structural: bridges, tunnels, and other heavy structures. Graduate engineer, not less than ten years experience. An excellent opportunity and a permanent position for right man. Salary commensurate with qualifications. Location on Gulf Coast. Reply

P-2154, Engineering News-Record
330 W. 42nd St., New York 18, N. Y.

WANTED

PROJECT ENGINEER

A large, long-established construction organization desires to add a Project Manager to its permanent staff. This position will require the ability to handle the very largest bid projects such as dams, bridges, or other large-scale construction operations. Demonstrated ability to take responsible charge is an absolute requirement here, as is also a proved record of technical and administrative accomplishment. Please submit a detailed personal and experience record. Your reply will be treated as confidential information. Salary open.

P-2156, Engineering News-Record
68 Post Street, San Francisco 4, Calif.

WANTED

RIGGER FOREMAN

For dam, powerhouse and similar heavy construction work, by large contractor operating throughout the Middle West and East. Preferably iron worker or carpenter by trade. Permanent position for first-class man, who must have at least five to ten years' experience with leading contractors along identical lines. Salary $175.00 per week. In replying state age, education, experience (including names of last three employers who will not be contacted without your previous consent) and present salary.

PW-2098, Engineering News-Record
520 N. Michigan Ave., Chicago 11, Ill.

ASSISTANT MANAGER OF CONSTRUCTION

Graduate engineer, wanted by national organization. Must be experienced in all phases of chemical plant engineering and construction, who has no objection to traveling. Give age, education, detailed experience, and salary expected.

Write Box ER985, Equity, 221, W 41 St. NY 18

POSITIONS WANTED

(Continued from page 93)

SPECIFICATION WRITER. Architectural and engineering general construction. More than 18 years experience. Experienced on hospitals, public housing, schools, office buildings, churches, banks and industrial buildings. Registered Architect. PW-2169, Engineering News-Record.

CIVIL ENGINEER, Young, experienced in site work, sewerage, hydraulics, and general construction. Desires position in California, Arizona or Nevada. A-1 references. PW-2171, Engineering News-Record.

CONSTRUCTION ENGINEER - Manager 20 years experience with two companies in charge of large and small projects. Experience all phases industrial and commercial construction. Thorough knowledge estimating, specifications, bid preparation, sub-contracts, job coordination and field inspections. College graduate. PW-2177. Engineering News-Record.

SELLING OPPORTUNITIES WANTED

MINNEAPOLIS-ST. PAUL and five state area; 15 years experience in design, site supervision and technical sales. Minnesota registration. Prefer technical building products. SA-1981, Engineering News-Record.

SALES ENGINEER. Over 17 years diversified engineering experience, including management of construction for Commercial, Industrial, and Governmental work. Prefer sales. Guarantee excellent past record and future results. SA-2072, Engineering News-Record.

BUSINESS OPPORTUNITY

All or part

of specialized contracting business operating throughout United States, past earnings from $25,000.00 to $75,000.00 yearly. Attractive proposition to capable construction man with financial responsibility. BO-1986, Engineering News-Record.

Established

Central New York road contractor desires experienced construction man with considerable capital to invest as partner. BO-2120, Engineering News-Record.

PATENT ATTORNEY

Patent Practice

before U. S. Patent Office. Validity and infringement investigations and opinions. Booklet and form "Evidence of Conception" forwarded upon request. Lancaster, Allwine & Rommell, Registered Patent Attorneys, Suite 454, 815-15th Street, N. W., Washington 5, D. C.

WANTED

Large engineering firm wishes to acquire several complete plants through purchase of (1) capital stock, (2) assets, (3) machinery and equipment, whole or in part. Personnel retained where possible, strictest confidence.

Box 1206
1474 Broadway New York 18, N. Y.

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The Government Owned Industrial Reserve Forge Plant

Berkeley, California

The Commandant, Twelfth Naval District, acting for the Chief of the Bureau of Yards and Docks, invites proposals for the leasing of the facilities at the Naval Industrial Reserve Forge Plant (Formerly American Forge Company), Berkeley, California. This plant, built during World War II for forging ingots into ship propeller shafting, large engine crank shafts, etc., contains extensive areas suitable for other industry, warehousing, or similar activity.

Description:

This facility consists primarily of a two-story office building containing 5,750 square feet of floor space and a steel and transite main forging building having 77,000 square feet of floor area, and housing a three thousand ton forging press together with the necessary furnaces, cranes, handling, cutting and other appurtenant equipment; a boiler room housing three 400-H.P. boilers; a handling yard with spur tracks, crane, fuel and water storage and pumping facilities, adjacent to the main forge building.

Location:

The plant is situated on a 2.94 acre tract on Ashby Avenue just East of East Shore Highway in Berkeley, California.

Access:

The plant is served by two spur tracks of the Southern Pacific railway main line. Truck access is by paved streets of the Berkeley highway system.

Utilities and Services:

Electric light and power, water, gas and sewage systems are installed and connected to the systems servicing the municipality.

General Information:

The property will be leased pursuant to the Act of 5 August 1947 (Public Law 364—80th Congress—First Session), subject to such restrictions as the Navy may deem necessary or desirable to retain the forging capacity of the plant. Leasing will be subject to Congressional approval.

Proposals contemplating the use of these facilities for their intended purpose are especially solicited, and will be given preference over those contemplating other uses. Proposals to lease the plant, in whole or in part, for any purpose not inimical to its status as a Navy standby facility will be considered, but the right to reject any or all proposals is reserved.

Written proposals, in duplicate, for the leasing of these facilities will be received by the Commandant, Twelfth Naval District, Federal Office Building, San Francisco 2, California, until 23 February 1950. The prospective lessees may inspect the premises or secure additional information concerning the property by application to the Commandant at the above address.

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1—Koehring Model WB-60 Dumptor Excellent Condition	$7000.00
1—Koehring Model W-55 Dumptor Good Operating Condition	$2000.00

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Lorain 41, ¾-yd crawler shovel & crane.

Lorain 40, ¾-yd comb. shovel, clam, crane.

Lorain 40 truck crane, Waukesha engine, mounted on Mack chassis.

P&H Model 255A crawler shovel.

Insley K-12, ½-yd shovel.

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1—1½-yd 50' clam boom for Lorain, Lima or Northwest.

Chain crowd L-40-41 shovel attachment.

Chain crowd L-75A shovel attachment.

P&H 203 shovel attachment.

Chain crowd Lorain 30A shovel attachment.

Lorain 40 Hi-Lift shovel attachment.

Bucyrus-Erie 30B tunnel front attachment.

Koehring 301 dragline fairlead.

BACKHOE BUCKETS

¾-yd Lorain, 40, LBS#6105, 44" cutting width, teeth, sheave.

27" outside width drop bottom type LBS #1033, good condition.

26" outside width solid bottom type LBS #4377, good condition.

¾-yd Amsco 40" cutting width, LBS #8101.

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McCaffrey Model 648 for 1¼ to 2-yd crane.

McCaffrey Model 636 for ¾-yd to 1-yd crane.

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Lorain 41, ¾-yd, LBS #7433, new condition.

New Lima 1-yd, Amsco, LBS#2295.

Bucyrus-Erie 1¼-yd gas air, LBS#3782, fair.

Lorain 75 manganese 1¼-yd, LBS#7233, teeth and bail.

Lorain 75B, 1¼-yd extended lip, 1¾-yd LBS#2260.

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Pettibone-Mulliken 2-yd for 3500 Manitowac LBS#5763.

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Gardner - Denver 2 - stage 160 ft., skid Mtd.

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Pennsylvania 12" x 10" class 3A single cylinder, 355 cubic foot P.D., flat belt driven, 50 HP slip ring motor.

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New 16 x 16 double clamshell gates.

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1½-ton Ford & Chevrolet.

2½-ton GMC, New and rebuilt.

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Ransome 34E dual drum, new October, 1943, with 36'9" boom, 1000 gallon auxiliary water tank, Cummins engine, rebuilt.

27E Koehring Paver.

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Jaeger type "L" double screed, 10½'-12½', rebuilt.

Heltzel 10'-12' finisher, rebuilt.

Blaw-Knox gas-electric 10½'-12½', rebuilt.

2 Koehring 10'-12', rebuilt.

Koehring 10'-16' finisher, rebuilt.

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Blaw-Knox type SA 10'-15' spreader, new 1943. New condition.

Concrete Road Forms

830'—Truscon 7"x8" forms, with stakes.
1380'—Heltzel 7"x8" forms, with stakes.
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1—Essig 3-5 Ton Tandem Roller	$ 2,250
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2—Towmotor 5 ton LT 72 Fork Trucks	$ 2,250

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Blaw-Knox 8000 ft. 9"x9".
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Int. TD18 with Trailbuilder angledozer

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Lima 1201 High Lift Diesel Shovel.
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1—1½ yd. P&H Model 655-A, combination shovel, dragline and crane, Ser. 6426, powered by Caterpillar Model D13000 Diesel engine. Crane boom 75', shovel front 24' boom, 18' sticks, 1½ yd. manganese dipper.

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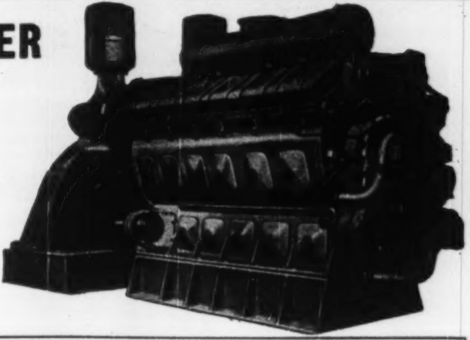

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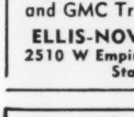

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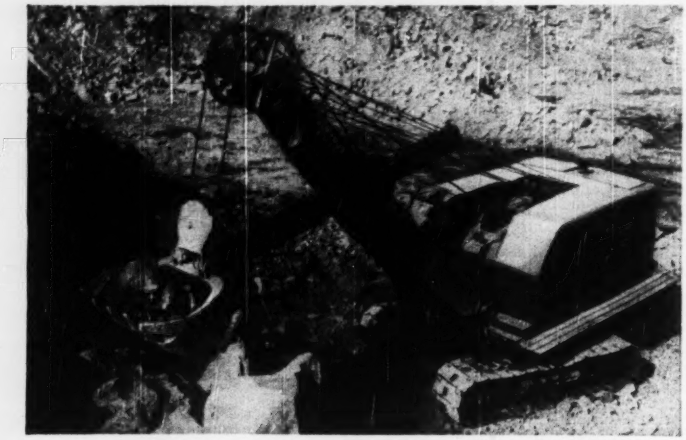
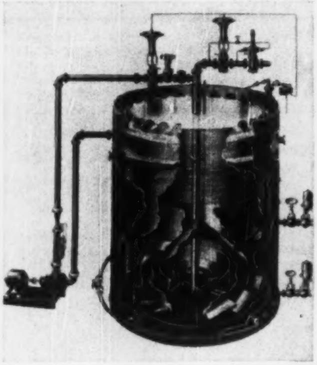


In-The-Field Convertibility Is Feature of Two-Yard Excavator

Convertible for use as a crane, dragline, clamshell, or shovel, the Model 51-B excavator has a rating of 2 cu.yd. as a power shovel. Direct mechanical control of crowd, hoist, and swing gives a fast digging cycle. For dragline and clamshell service, booms from 50 to 90 ft. in length are available. Crane booms range up to 110 ft. in length. Additional reach for lifting cranes may be provided by jib extensions. Contractors may choose between diesel or electric power. Standard mounting offers a choice of 30 or 36- in.-wide treads. — Bucyrus-Erie Co., South Milwaukee, Wis.



Slurry-Type Water Softener

Cold-process slurry-type precipitating water softener and coagulator employs hydraulic energy for mixing the applied chemicals with previously formed precipitate. Thus optimum flocculation is achieved without the use of submerged mechanical moving parts within the softener. Complementary recirculation of treated water maintains a uniform depth of slurry bed independent of load demands. Where filters are used for final clarification, a washer reclamation compartment is incorporated to enable the filters to be economically backwashed with clean, chemically inert water without imposing increased flow rates through the softener. Density of slurry bed is automatically and proportionately maintained. — Worthington Pump & Machinery Corp., Water Treating Section, Dunellen, N. J.

Steel Clamp for Wood Curb Form

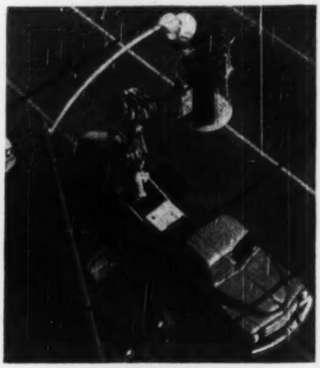
Steel clamp permits curb-and-gutter construction combining the advantages of steel-form design and low cost of wood. The Boult system is adjustable, without extra parts, for widths of top of curb from 4 to 8 in. and batters from vertical to an angle. Face or front form can be supported, without staking, at any height up to 24 in. Features include: Face form is removable without disturbing concrete; no stakes through gutter or slab; no wrenches or tools required; and universal application. — Pacific Engineering Sales Co., 215 W. Fifth St., Los Angeles 13, Calif.

Traffic-Zoning Paint

Full-scale production has resumed on the Porcelite traffic-zoning paint. Features claimed for this paint are: Long wearing, easily applied by hand or machine, economical, and adheres tenaciously. Porcelite dries completely within 20 to 30 min. after application. —Thomson-Porcelite Paint Co., Industrial Sales Division, 330 Race St., Philadelphia 6, Pa.

Carrara Glass Window Sills

A complete line of standard Carrara structural glass window sills in 1¼ and ¾-in. thicknesses has been made available. Cararra is a strong everlasting material which is impervious to heat, cold, and moisture; will not fade with age; and is resistant to water, acids, chemicals, grease, and grime. Cararra sills are especially recommended for use with steel casement windows because of their ability to withstand the effects of condensation and other forms of moisture.—Pittsburgh Plate Glass Co., 632 Duquesne Way, Pittsburgh 22, Pa.



Boom for Overhead Work

Truck-mounted articulated-boom hydraulic unit is designed for overhead work. It has a double-jointed steel boom provided with a self-leveling cage or platform. Using hydraulic power supplied by the truck engine and controlled by finger-tip levers at the cage, operator can raise himself 33 ft in 6 sec. The Hi-Tender has a 180-deg swing, and operates to either side on a radius of 20 ft. It mounts on any standard truck chassis of 1-ton size or larger. Power can be shut off at any time, leaving boom stationary

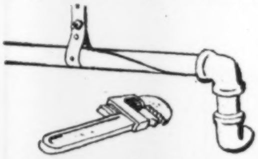
(Continued on page 108)

Take THIS WAY OUT

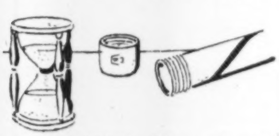
of your STEAM RETURN LINE TROUBLES

No matter what the situation is in other piping services, it's a safe bet that practically every plant has a serious *corrosion threat* in its steam return lines . . . and a recurring *maintenance problem* unless proper safeguards are utilized.

You can take different steps to modify the corrosive conditions—such as utilizing a deaerating heater—and to eliminate danger points—by reaming the ends of all pipes, making-up joints properly, pitching lines so there are no low spots, and following good installation practice in other respects. But after you've done all this, the pipe must still carry a highly corrosive fluid, and the only final safeguard is to use a corrosion-resisting material. Engineers all over the country are finding the answer in Byers Wrought Iron pipe.



As an indication of how successfully wrought iron pipe stands up in return line service—one study covering 125 buildings located in 25 cities in 17 states revealed wrought iron installations still serving after periods up to 70 years. The fact that such long service was not due to mild conditions was demonstrated by reports on the use of low first-cost materials. In every area, repairs and replacements had been necessary in a fraction of the comparative service life *to date* of wrought iron.



It is only natural that wrought iron should offer unique service properties, because it is unique in composition and structure. The tiny fibers of glass-like silicate slag that are threaded through the body of high-purity iron halt and "detour" corrosive attack, and so discourage pitting. The fibers also anchor the initial protective scale, which shields the underlying metal.

If you are having trouble with your return lines, we will be glad to study the problem with you, furnishing a bottle for collecting a sample of the condensate—having it analyzed in our laboratory—*evaluating* the findings, as they affect corrosive activity—and reporting on the experience of other engineers with wrought iron in similar situations. If you would like to know more about the material, ask for our booklet, THE A B C's OF WROUGHT IRON which gives the whole story.

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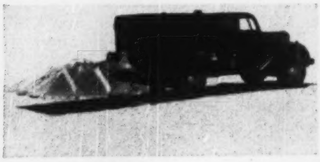
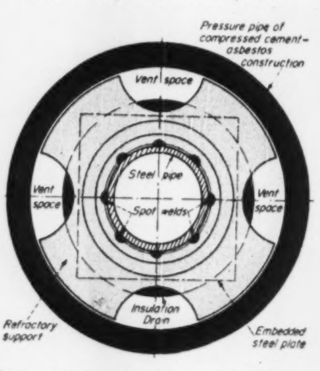
in any position. Hydraulic cylinders are equipped with Vickers balancing valves.—Stemm Bros., Inc., Leavenworth, Wash.



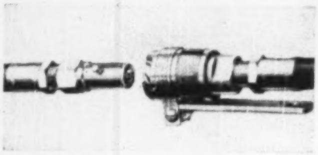
Asphalt Surface Heater

Clarkmore heater is mounted on a specially built Diamond T truck. Unit is designed for economical resurfacing of sheet asphalt, rock asphalt, asphalt block, and plant mix. All operating parts—fuel-oil tank, gasoline tank, engine, blower, pumps, and hydraulic hoist—are housed in a rigid steel body. Controls enable operator to move machine without getting into the truck cab. Heating hood is raised and lowered hydraulically. Hood is manufactured in sizes ranging from 5 to 8 ft. This one-man-operated unit will remove 3,000 sq. yd. of asphalt pavement to a depth of 1 in. in an 8-hr. period.—Asphalt Maintenance Co., 41 Park Row, New York 7, N. Y.



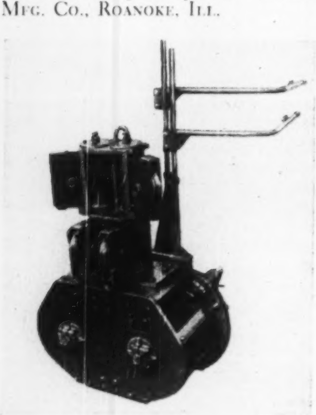
Watertight, Underground Pipe

Conduit system consists of steel pipe supported at regular intervals by a high-tensile refractory which has an embedded steel plate designed to fit, with proper tolerances, the size of pipe used. The support is slipped onto the pipe in proper position and is then spot-welded in place. The support is circular and supports the pipe for any direction of thrust. The steel pipe is coated with a rust-inhibiting paint; the spaces around the spot welds are filled with insulating cement; a sectional molded insulation with impregnated asbestos-felt jacket is sealed in place; and the entire insulation is given a waterproof coating. The entire system is then installed in an exterior casing—a pressure pipe of compressed cement-asbestos construction. Features include: non-metallic and nonconductor; unaffected by electrolysis or tuberculation; highly resistant to all forms of soil corrosion; eliminates ground-water leakage into the casing; high salvage value; and low cost and flexibility. System can be field assembled, or supplied, prefabricated and ready to lay, in lengths of 14 ft.—W. J. Whatley, 2111 National Standard Bldg., Houston 2, Tex.



All-Purpose Coupler

Hydraulic coupler is applicable to installations where either breakaway or standard type is indicated. When plug is inserted into the socket, a slight twist causes a sleeve to automatically lock the coupler. Disconnect is accomplished by pulling the sleeve back. To use as a breakaway coupler, sleeve is connected to the tractor by means of a bracket. When the bracket pulls the sleeve back, it automatically disengages the coupler preventing hose breakage and oil loss. No chains, collars, or special links are used. The Ulrix coupler can be connected under all operating pressures, and, when disconnected from a raised load, the coupler is said to hold the pressure of the load as long as required.—Ulrich Mfg. Co., Roanoke, Ill.

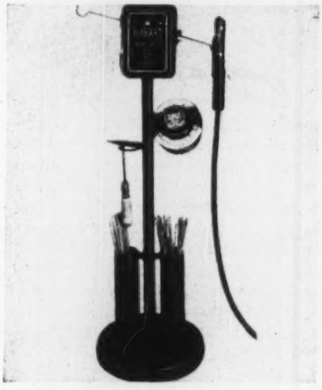


Power Control Units

Line of power control units is designed for crawler tractor or other cable-control use. The line includes three models—Model C-90D, double drum, for tractors of 50 hp and up; Model C-50D, double drum, for tractors up to 50 hp; and Model C-50S, single drum, for tractors up to 50 hp. A special unit, the Model C-90DL for logging and extra-heavy-duty work, features extra-heavy-duty clutch and cone, and special drum and control guards for added protection. Gear ratios range from 5:1 to 12:1.—Kay-Brunner Steel Products, Inc., 2121 Elm St., Los Angeles 65, Calif.

Side-Dump Trailer Train

Two, large semi-trailers, coupled by means of a pneumatic-tired dolly, result in a side-dump trailer train with a capacity of 44 tons. Gross weight of the vehicle, loaded, is 180,000 lb. Outstanding feature is the automatic down-folding side door which drops open as the body is raised for dumping. When body is lowered to riding position, the door closes automatically. Two, hydraulic, three-sleeve, single-acting telescopic hoists, operated from the driver's cab, are used to raise each body. Trailer measures 57 ft. from end to end. Complete information on this trailer may be obtained by writing—Easton Car & Construction Co., Easton, Pa.

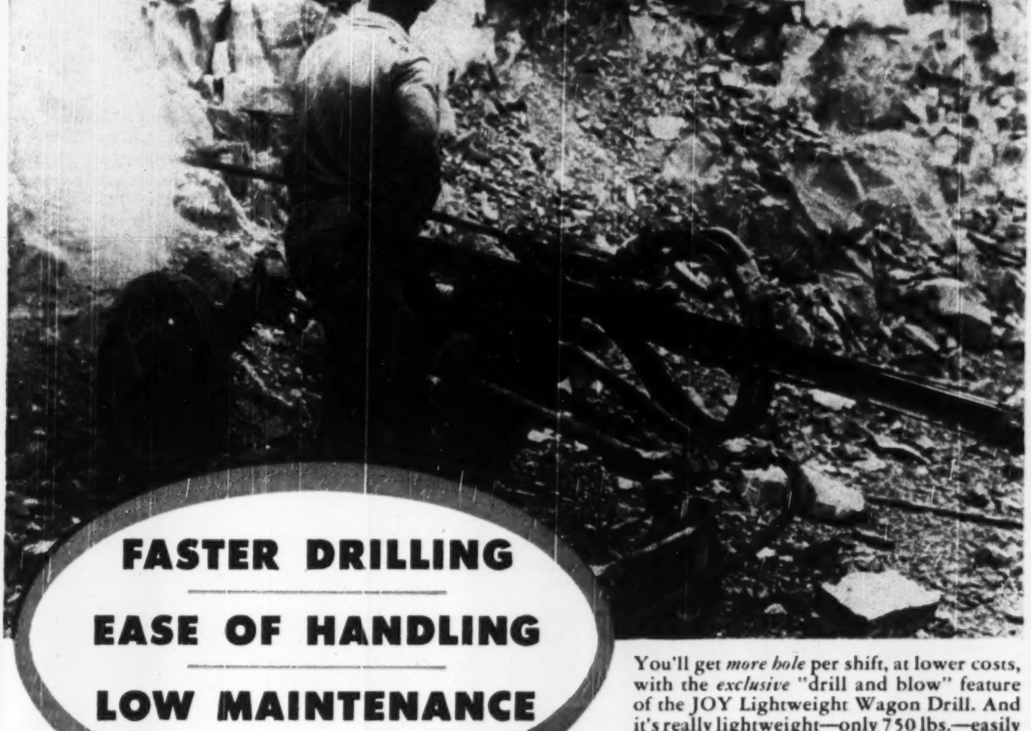


Welders' Start-Stop Stand

Stand for holding welding handles also serves as a start-stop switch for the welding generator. Weight of the electrode holder on the arms of the Electro-Mizer breaks the circuit shutting off the machine. Picking up the electrode holder, automatically starts it again, resulting in the arc-welding machine being used only when welding is being done.—Hobart Bros. Co., Hobart Square, Troy, Ohio.

Correction—The December 29 issue of Engineering News-Record gave the address of the Illuminated Plumb Bob Co. incorrectly as 2521 Third St., Northwest, Washington, D. C. The correct address is: 2521 Third St., Northeast, Washington 2, D. C.

JOY ONE-MAN LIGHTWEIGHT WAGON DRILL



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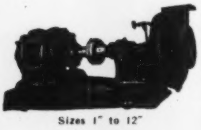

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Welterweight Motor Grader—Low-cost all-purpose motor grader is featured in a new 8-p. bulletin. The bulletin contains illustrations showing the Trojan welterweight patrol in use on ditching, blading, fine grading, loading, dozing, snow plowing, scarifying, and maintaining operations. A double-page photograph of the Trojan is accompanied by a list of ten advantages claimed for it. Catalog P-700 contains illustrations of accessories available for use with the Trojan, and a complete list of specifications. — CONTRACTORS MACHINERY CO., INC., CLINTON ST., BATAVIA, N. Y.

Proximity Warning Device—Electric device sounds a warning when crane or shovel booms swing into the vicinity of power lines or other danger areas. Complete details on the operation of the Electro-Alarm equipment is contained in a small folder which also contains detailed information on the master control unit, the proximity detector, the warning horn, and the trouble-check flasher. The device will fit any size rig. — ELECTRO-ALARM SALES CO., 320 WOODMEN OF THE WORLD BLDG., OMAHA 2, NEBR.

Screeds Supports—Four-page bulletin lists complete new line of screed supports including an offset screed head designed to hold either 1-in. (ID) pipe or a 1¼x1¼x3/16-in. bar; screed bolt for heavy screeding with a 2x2x¼-in. T-bar; form bracket; adjustable base; subgrade stake; subgrade base; subgrade chair; form bolt; and curb bolt. The form and curb bolts are used for supporting hanging forms for walls or curbs. The offset screed head and the screed bolt are completely adjustable from above by means of a speed wrench. — RICHMOND SCREW ANCHOR CO., INC., DEPT. S, 820 LIBERTY AVE., BROOKLYN 8, N. Y.

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READER COMMENT

Polled Engineers Uninformed?

Sir: I am confused by the article on welding in ENR Dec. 15, p. 23. While the title seems to indicate that you favor welding, you have quoted people who are evidently ignorant of present practice. Even though this is stated to be merely a popular poll, the fact that these statements are quoted in your magazine will no doubt indicate to many of your readers that they are made with authority. Actually, such things as confidence in the strength of welding were satisfactorily decided years ago, and in an architectural engineering office where welding is standard practice, some of the statements you quote seem downright silly.

It can be easily demonstrated, both by theory and actual cases, that savings up to 20 percent may be made in the tonnage of a steel structure when designed for welding. Arguments over the comparative cost of a welded and riveted connection are entirely without meaning unless considered with the entire structural picture. Several years ago, a study was made that showed that the cost of a non-rigid bolted connection in a 12 in. WF beam was practically the same as a shop-welded connection that would develop the entire section. Several fabricators assisted in this study. Since then, we have wasted very little time worrying about this matter and have devoted our efforts to making very substantial savings with 100% rigid connections.

The matter of confidence as expressed in the article seems to be a personal attitude based on years of habit. The engineer who states that a poor riveted connection may be safe while a poor welded one may not be certainly goes in for loose statements for a man in his business. It is very unfortunate that this was published.

It has been pointed out in many publications that weld metal has a greater elastic strength than structural grade steel and that a welded connection so extremely poor as to have 10 percent or even 15 percent void area would still be much stronger than a perfect riveted connection in the same member. On the other hand due to all the friction and resistance to shearing, bending and bearing, that make up the strength of a rivited connection, it is our opinion that it is very fortunate indeed that many old structures have never been loaded to their designed capacity!

The engineer and architect who stated that they left such things up to the general contractor just simply are not doing the work included in their fee. Such statements as this are made in plain ignorance of standard engineering practice and are reminiscent of the Quebec Bridge, where 85 people were killed because the structure was cut to the bone on unspecified items When an engineer leaves any item open, his client is at the mercy of the contractor, and when the building public becomes more acquainted with good engineering and construction methods, such practices will disappear. But in the meantime, it is certainly detrimental to the development of this field when the public is mislead into thinking such things are acceptable due to being mentioned in engineering publications.

The paragraph, "Space Factor," sounds reasonable. But facts on the work of this office do not bear this out, since we have been getting welded structures fabricated at costs per ton at least as low as the cost of riveted or bolted structures.

You have evidently discussed the subject with many people. Some of the ideas expressed are good, especially those regarding outworn building codes. But you have also quoted either uninformed or prejudiced persons on a craft that is as standard and well accepted as steel itself.

David R. Graham
Consulting Engineer
Tulsa 9, Okla.

[In making the welding survey (ENR Dec. 15, p. 23), we questioned a large number of important engineers and fabricators, all of whom were selected on the basis of their broad experience. We promised not to disclose their names or connections, because we wished to get frank replies.—Editors]

Welding Survey Disbelieved

Sir: Our company has designed many types of welded structures and products in the past 15 years. We specialize in the design and supervision of industrial buildings. Since 1934, we have designed only two types of such buildings: rigid-frame steel, and where this type has not been feasible, reinforced concrete. We have designed several dozen large, welded structures per year.

With this experience, we read the article (ENR Dec. 15, p. 23) with considerable surprise and disbelief. It is difficult to know just what type of a survey was made, and no doubt many architects, engineers, and even some fabricators still cling to riveted practice. However, we take exception to your statement that the construction industry lacks confidence in welding and can't agree that "the method is a good one".

There is no question in the writer's mind but what you term "lack of confidence in the use of structural welding" is only lack of knowledge; for no engineer, architect, or designer properly trained in the possibilities and technique of modern electric welding would ever show lack of confidence. The real trouble is that most architects and engineers have not had a technical education that included design of welded structures.

To prove this point, all one has to do is to look at the average steel-frame factory under construction. Most of these are riveted, with deep trusses, small bays, and the attendant rat's nest of framing, which too often accompanies this type of design.

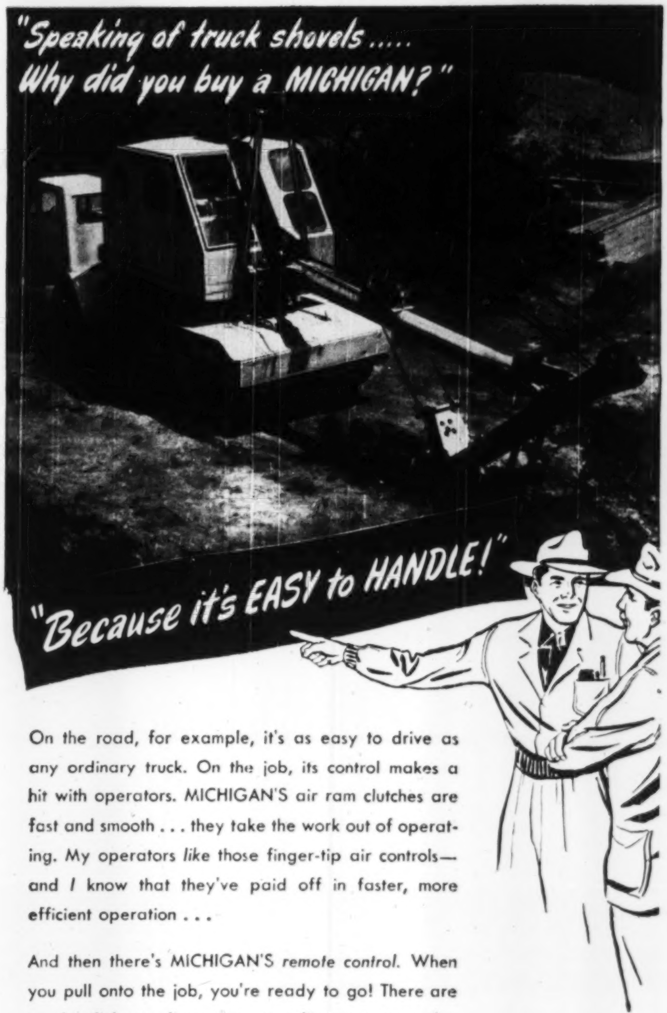
It is true that some welders are incapable of doing first-class work. That, of course, is the basic reason for having outside testing laboratories inspect the welds. However, the cost of such inspection for the average industrial building is relatively small. For instance, on the most recent building designed by us the steel cost $90,000 and the inspection cost was only 0.5 percent.

Of course, as the article states, where an engineer designs a structure for riveting and then adds a clause allowing the fabricator to use shop welding, you cannot expect anything else but a mess. Such an engineer might just as well offer any one of a half-dozen other alternatives, and the net result would not be much worse either in design or cost.

It would be possible to go on and discuss each of the points in your article at length, but basically the reaction that a reader who is familiar with welding design gets is that your survey condemns welding not because of its economy, simplicity and beauty of design, or safety, but because the majority of architects and engineers just don't know how to properly design welded structures.

As for cost, we have frequently submitted our continuous-beam, rigid-frame welded designs along with riveted designs to fabricators to obtain comparative prices on typical bays, and where the fabricator has had experience on such work, the bids have been similar or lower for the welded design. It is true that it costs the architect or engineer more hours of designing time to turn out a well designed welded structure, but the results are more than worth the additional effort.

E. O. Sessions
Sessions Engineering Co.
Chicago 2, Ill.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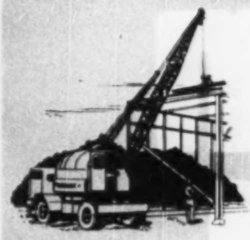

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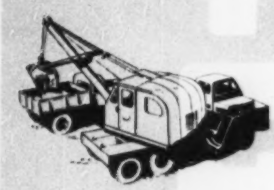

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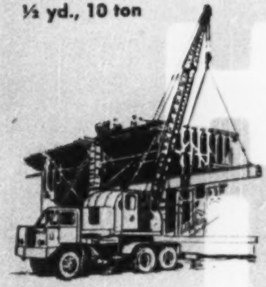

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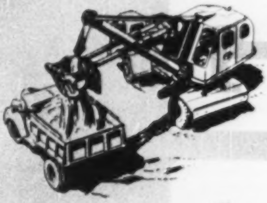

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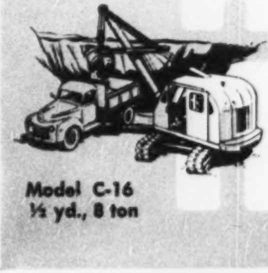

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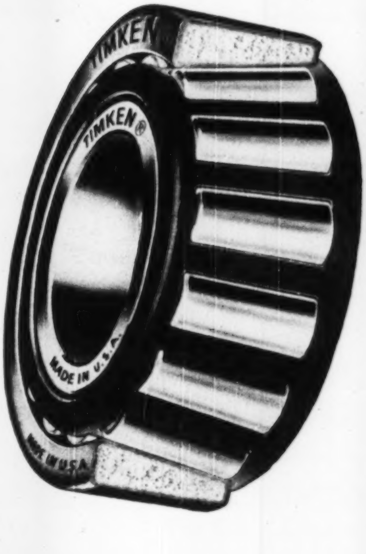

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